\\ \title{
M\&S\\ \title{
M\&S trial run
} trial run
}

Late start for CBS

CBS has moved into the UK sollware markel with the release of a range of eight lities - only just in time for Christmas.

The initial range will be available from the and of November, and sur on the Commodore only, Foth dise and cassette versions will be packuged in disc-sized boxes, whith striking meon-style ertwork.

The games are writuen by Epyx, an American company which had a UK hit with Summer Games, lisensed by CBS to Ouicksilva. Brian Hyams. CBS satiware manager, Conimued on pore 5

CBM 64 word quiz So you think you know it all?

Reviews for: BBC Electron, Oric, Spectrum, CBM 64, Amstrad CPC464

Special features
Look ciosely at your CBM keyboard

Foolproof Input check

Touchmaster put to the test

Great games for
Sord, Dragon, 2X81, Spectrum

Along with underwear and weekly provisions, you can now pick up a software pack from Marks and Spencer in selected stores nationwide.

Fifieen shops will be slocking a ratige of three packs, ate $\mathbf{£ 6 . 9 9}$. Each pack contains iwo caseltes and comen complete with a sofibsck book giving you hinis and sips on strategy for games, and instructions for unilities.

The projet is trial run to test the markef, and the initial range will be of three packages: Sten to Program, writen by Tripych Publishing, Games Pack from Visions and Silversoft, and Games Maker by Quicksilva. Continued on page 5


SHARTM

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CENTURY



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Readers: we welcome your programs, articles and tips

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# THE INDEPENDENT hoME-MICRo 

## NEWSLETTER

## - GOSSIP AND RUMOURS

Nowhere will you find more about who"s doifs what to when, success, pending success orfailure. Abro if you den't know what Sir Cive's nickuame was at school or that the new Ptesident of Atari was once a New York cabbie: the Home Micro Diary Page tells all.

## \# HARDWARE

We are not a Iechnical jourmal, BUT every month we print an 'easy to read' chart that gives you everything you need to know aboul
whal's new, what it does, where to get it and how much. Plus, we offer our own short comments on value and usakility. Everything from eomplete computers to carrying cuses is covered.

## $\star$ Christmas offer

Home Micro makes a great gifi, If you rill is the form below but ako tick the bor, we will send you a silver-edged 'menbers' card to be given away on Christmas Day.

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## - TECHNICAI BREAKTHROUGHS

As a competer owner you owe it to yourself to keep abreatt in this new technological world. Home Micro will not only keep you right up to date, ber we will also advise you on how NOT to spend your moncy on obsolete equipment.

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## * SOFTWARE

We print a monihly and uniepue catezorisedt software 'hit list' so that whether you're an 'adventure', 'arcade' or 'strategy' games player, you'll know which of your lype of game is really the best selfer. PLUS we print a special NON-GAMES thit list ${ }^{4}$ - WE CARRY゙ NO TRADE ADVERTISING, and all our views and reviews are independent and uabiased.

## PLACE YOUR 'FAEE AD' HERE

(not more than thirly words please)


## * A LETTER FROM SIR CEJVE

How would you like to receive a personal monthly leter from such eminens personalities as Sir Clive Sinclair? Every month we invite such people to write to our snembers giving their views as to how they see the future of the home micro developing

## $\star$ free advertising

This is another first for Home Micro. All menbers may place as many 'free ads' for seles, wants and exchanges etc., as they wish and absolutely FREE. The Home Miero 'Ad' Supplement is distributed to all members monibly with the Newsletter, creating an incredibly effective sales and wanls communications network. Or simply enabling member to member contact with rellow enthusiass. WHY NOT PLACE YOUR PREE 'AD' NOW (sec below).

## * PLUS PLUS PLUS

International reponts - Diary page of fairs and exhibitions - MEMBERS DISCOUNTS - BEST RUYS - star prize competitions offering such prizes as, . . "'Tea at the Sovoy with the progranmer of the game you hate mest!"

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HCHANE ...........................
 Fioni Strent, Bowverie Houpe Branch, for thu Hecoum of Ftome Micro-Uty Lad. (mpa16is) the mum of C1200 oh TS Februery 1905 and thereftur C17.50 on the some day anch your until coumbmarded by me

OR Pinuter debll my Acomes Cond Mo.


## NEWS

## M \& S

## From from page

the project is a success, we'll look at other machines:"

The software is packaged in an open video-style box, with clear plastic film protecting the cassettes and book. The first three releases are designed for family interest and to appeal to beginners as well as enthusiasts.

Start to Program enables you to experiment with shapes, colours and graphics, with an adventure game which you can rewrite. Fearless Frank and Frozen Penguin are the two arcade games which make up Games Pack, and the booklet accompanying the games gives you hints on how best to play the games.

One cassette of Games Maker contains eight sample games, which you can alter as you like, while the second cassette is blank so that you can store the games you create. The 48 -page guide is illustrated and in full colour.

Computer software is available Irom Marks and Spencer in Belfast, Birmingham, Brent Cross, Cardiff, Croydon, Glasgow, Kingston, Leeds, Lincoln, Manchester, Marble Arch. Newcastle, Oxford Circus, Reading and Yeovil. Instore videos demonstrating excerpts from the games will be on show in certain branches.

## C3S

## From front page

regretted the fact that CBS had moved into the software market too late to release Summer Games in the UK.
"It's just one of those things," he said. "Obviously we would have wanted to release Summer Games under our own label, but we weren't in a position to put it on the market place at that stage. But we were heavily involved with the game,'

Commenting on CBS's late entry into the software market, Mr Hyarns said: "We think it's better to make a release before Christmas than not at all,' he said. "Timing has been the enemy for us: a decision was made by CBS Software with CBS Records for us to move in to the market over here, but we weren't asked to look at the situation until September."
The first eight games will be followed by monthly releases, according to Mr Hyams. The company has two American sources of software: Epyx and CBS Software, which has
brought out a number of educational games, some based around characters such as the Sesame St gang.
"We would like to alternate our releases, said Mr Hyams. "We will be releasing Epyx games one month, then educational activity games the next:'
CBS will be studying the success of each game, and then making a decision in the new year which games to convert for Spectrum, and BBC. "We'd be delighted to release on the Spectrum," said Mr Hyams. " it really depends on how well each game does. Impossible Mission is attracting a lot of attention, of course we'll be pleased if it's a hit. We think all these games are good:'

Impossible Mission involves you as Agent 4125. Your mission is to reach the control centre of a mad scientist, who is thretening the world with nuclear annihilation. Humanseeking robots endanger your life and your must somersault over them.

Other titles include Break dance, Pit Stop, Temple of Apshai, Silicon Warrior, Jumpman, Lunar Ouipost and Dragonriders of Pern.

CAS Software, Ashbrook Hise, Rathbone Pt, London WI

## Castle of adventure

Castle Blackstar is the name of CDS's latest adventure licensed from SCR Adventures. Available for the Spectrum and Dragon, with BBC, Commodore and Amstrad versions to follow, this game is the first part of a trilogy, The Artemis Quests.
You are commanded by the goddess Artemis to retrieve an important orb and you must locate it in the caste dungeons. This is a text-only adventure, and you have more than 200 words in your vocabulary.

Price: $£ 6.95$
CDS, Silver Hse, Silver St, Doncaster, S Yorks DN/ IHL

## -cetn - TM strelrs

Ocean, based in Manchester, features in a documentary to be shown on BBC 2 on December 13th, at 8 p.m. The series Commercial Breaks has been following the progress of entrepreneurs in various fields.
In May the documentary team began work on Imagine, the Liverpool soitware house
which collapsed this summer. Attention was switched to Ocean and the programming and production of Hunchback II.

Whilst the documentary was being filmed, Ocean acquired a large portion of Imagine, and the events leading up to this acquisition can be seen on Commercial Breaks.

You can also see how a computer game is made and marketed, and eventually arrives on the shelves.

## Vampire killer

Track down Dracula and desiroy him, using the traditional means, in Vampire Killer from Scorpio Gamesworld.
At $£ 1.99$, this arcade adventure is available for Spectrum and Amstrad. Scorpio Gamesworld promises that if you succeed at the top level of difficuliy, and answer four questions correctly, you could win $£ 100$-worth of software.

Scorpio Gamesworld, 307-3/3 Corn Exchange Bldg, Cathedral St, Manchester 4

## Wall 5t shuffle

Kuma has released a simulation game of the stock market on the Commodore 64. You must pay attention to the news items regarding company shares, and yeu can take advantage of hints and tips - although not all are

## reliable.

This is your chance to make your fortune - or give it alt away - but take heed: he bank eliminates bad debtors. If you're tactically brilliant you can avoid income tax, but don't make 100 much money, since super tax is crippling.

One to four players can participate and the game costs 26.95. Jon Day, sales manager. said: "Commodore owners will find this challenging simulation game a refreshing change from the normal zap-pow arcade games. Dare we say: an ideal Xmas present for the would-be investor?"

Kuma, 12 Horseshoe Rd, Pang. bourne, Berks RG8 7GW

## Plug it in

Here's an expensive aliernative to the common or garden plug: The Plug from Power Incernational. At E17.75, it's considerably dearer than the usual version, but Power claims it eliminates electrical hiccups small power surges and spikes - instantly.

Lost or corrupt date due to variances in power will become a thing of the past, according to Power, and the company promises that The Plug will ensure Christmas spirit of good will really does prevail.

Power International, $2 a \mathrm{Jsam-}$ bard Brunel Rd, Poftsmouth, Honts POI $2 D U$


The Plug from Power International

## NEWS

## spy

You are a British agent in a wartime Germany, in 1942 Mission by CCS. You must penetrate a camp and seize the plans, which are kept in a strong safe. Schmidt, a German guard, will help you, as he is a double agent.
This adventure game features sound via a tape recorder and there are special verbs. If your energy factor falts below zero you cannol go on.
1942 Mission costs $£ 5.95$ and runs on the Spectrum.
CCS, id Langton Way, Blackheath, London SE3 $7 T L$

## crib from cords

Are you fed up with having to check back to your computer manual whenever you reed to know some detail for programming? For £1.99 per card you can now buy Computer Crib Cards, from Phoenix.
Commodore 64, Spectrum, BBC and Electron cards are available. Topics like keywords, operating commands, graphic and sound commands are included, to name but a few.
The cards are reported to be made of sturdy glossy card which will not spring shut at the crucial moment, and each card comes in a polythene sleeve.

Phoentix Publishing, 14 Vernon Rd, Bushey, Herts WD2 2/L.

## Micto brealkdown

The guarantee on many computers will be expiring soon, if it hasn't already. Then you're faced with the problem of who will mend your computer when it breaks down, and worse still, how much it will cost.

Computer-fix, of Camberley, has established a network of 500 dealers. From the time you hand your micro over the counter to one of the specified dealers, Computer-fix guarantees that your computer will be mended in 48 hours, plus the postage time from your deater to Camberley and back.
Speedy repairs can be assured thanks to ACUMEN, Advanced Compuler Memory Tester, which can diagnose faults in any of the 10 best-selling home computers in "just seconds", according to Computer-fix. And the company states that the ACUMEN machine would only cost $£ 5,000$ if sold - 5 per
cent of the cost of existing advanced test equipment.

Managing director Ray Johnson explained that it takes a skilled computer engineer half a day to track down a small fault in a micro. "The answer had to be largely to take the skilled computer engineer out of the repair process for cheap computers and replace him with ... a cheap computer!"* he said.

He continued: "Home computers could well have become disposable items of technology like toasters - not worth repairing but too expensive to throw away:"

Repair prices start at $£ 15.50$ including parts, postage, transit insurance and 90 -day guarantees on parts and labour. Look in a new yellow pages telephone directory under the classification Computers - Mini and Micro, and you should find Computer-fix dealers there.

Computer-fux, Albany Pk Est, Frimley Rd, Camberley GUIS 2PL

## Robot plotter

Penman has faunched "the unique robot plotter", It's a threc-colour plotter with a built-in character set, which can cope with any size of paper. According to Penman, it can draw perfect circles and straight lines in any direction and is reported to be less than half the cost of its nearest rival.

As well as being an accurate plotter, Penman claims it is a
high resolution printer, desktop turte, precision robot with tactile feedback to sense obstacles, and it can also function as a mouse.
The unit can be connected to almost any computer with an RS232 interface and it costs £217 plus VAT.

Penman, 8 Hazelwood Close. Dominion Way, Worthing, W Sussex BN14 8NP

## Adventure helpline

If you're an adventure fanatic your life could be made easier by Advemture Planner from Prink 'n' Plotter, It's is 50 -page planning pad, A3-size, which enables yout to plan your game and keep record of your maneeuvres.
Each page contains a mapping system with over 150 locations. You ire provided with examples and hints and tips on how to use the planner to its best advantage.

Price: $£ 3.95$
Primt ' N ' Plotter, 19 Borough High Sr, London SEJ 9SE

## Trio for Amstrid

Timeslip is the name of a new software house which has released three games for the Amstrad CPC464. Rollaball, The Royal Quest and The Moors Challenge cost 16.95
each.
Rollaball is promoted as being "so original it defies description"? What you must do is manoeuvte one of a number of sliding panels over a gaping hole to form a continuous track along which the rollaball puns, More and more empty panels are left and the game is reported to be frustrating, difficult but addictive.

In The Royal Quest anything can happen, according to Timeslip. You instruct your guide to find the King of Grall's magic crown. This text-only adventure is said to be tongue in cheek and you must have your wits about you.
The Moors Challenge is an Othello-type program played on an $8 \times 8$ board. Five skill levels and a demo are features.

Timeslip, The Old Primary School, Main St, Stoneyburn, W Lothian EH47 8PA

## Learn with Mr Men

" Mr Men make learning fun for chitdren:', so says the promotion for Mirrorsoft's latest taunch. Word Games with the Mr Men.
This is a double-cassette pack of word games, recommended for children in the five- to eightyears range. There are two main programs: the first teaches opposites, comparatives and superlatives, while the second demonstrates words such as on, in and next to, with animated


Penmen three-solour roboi plotier


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## STARCADE


produced by
ARGUS PRESS SOFTWARE
No 1 Golden Square, London WIR 3AB
Telephone: 014370626

## NEWS

sequences.
Widgit Software designed the games, and a keyboard overlay and instruction booklet is included in the purchase price of £9.95. Available for the Spectrum.

Mirrorsoft, Holborn Cincus, London ECIP IDQ

## School romp

Skooldaze, from Microsphere, is "a fast action romp through your youth". Running on the Spectrum, it features stereotypical school characters, like the bully who violently smacks you on the nose, the angeliclooking terror who will get you with his catapult, and the virtuous swot who knows all the answers.

Skyranger, also from Microsphere, is a 3D shool-em-up game which the company claims will make the attempts of other 3Ders look a little pedestrian to say the least. Fly through the city to defeat the Watchers. Your view from the cockput will show you what it really looks like.

Both run on the Spectrum and cost $£ 5.95$

Micrasphere, 72 Raseberry Rd, London N10 2LA

## Briefly

Now on the Amstrad CPC464: War Zone, from CCS. You play against the computer and you can have from 15 to 150 pieces of infantry, tanks and artillary. Price: 6.95.

CCS, 14 Langton Way, Blackheath, London SE3 $7 T L$

The Ket Trilogy, from Incentive, is now available in a gift pack. The Mountains of Ket, The Temple of Vran and The Final Mission will cost $£ 12.95$ in the presentation set, a saving of £3.55 on the individual price.

Incentive, 43 London St, Reading $R G I 4 S Q$

Wally Week, star of Pyjamarama, can now be seen on Commodore 64 and Amstrad CPC464.

Price: 7.95.
Mikro-Gen, 44 The Broadway, Bracknell, Berks


Paul Clansey, face to face with the Alien

## Alien strikes back

After Ghostbusters - the game of the film - from Activision, here's Alien, from Argus Press Software, in the Mind Games range.
Twentieth Century Fox has licensed the same, and it's available on the Commodore 64 for starters. Spectrum version will follow in early December. At 68.99 the package includes a 16-page booklet with stills from the film, and a guide.
Paul Clansey, programmer, worked on the project for several months and is fascinated by the film.
Alien - the game - is one of speed and strategy. "It sets new standards in strategic gameplay"; according to Peter Holmes of Mind Gams.

Argus Press Soffware, No. 1 Golden Square, London WlR $3 A B$


## ADVENTUREMANIA IS IN THE TOP 100 GAMES FOR 1984 AND IT'S TI-99/4A

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## Santa

 and the Goblins

## Prolector 1 4gK Spectrum E13．95

McGraw－Hill，Maidenhead， Berks

An impressive－looking package sub－titled Business Graphics Forecasting \＆Presentation System，which allaws you to inpus date oriented data such its ssles info，paiss of values e．g． target and actual sales，or other statistics，and reproduce them in histogram，line graph or pie chatt form．
In addition，lines or curves can be fited automatically to the graphs allowing projections to be made．All scaling is sutomatic and very rapid，and a very impressive colour fill routine， which the Spectrum lacks in standard form，is employed．
Text can also be input，either
as labels or for display in an oversize character set．Using the built－in facilities，you can create a＂slide show＂based on the screens held in memory．These can be recalled from Microdrive or cassette．

The paclage also includes drivit rdutines for al number of printer interfaces to allow hard copy on full size printers，and from which OHP transparencies or litho plaies could be made． Unfortungrely，only Epson pristers dre catered for，which is very limiting．

Reasomble value when the amount of real work it will do is laken into account．D．M．

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| display | 1005 |
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value for moncy 1005


## Turbo 64 <br> CBM 64 E7．95

Limbic Systems，Hensington Rd Woodstock，Oxford OX7 IJR

Most HCW readers will have well the marvellous Atari machine in which you drive a car in a Grand Prix．Several software houses have brought out copies on home compurdy．
In this game，you are in the driving seat of a Grand Prix car． You see through the windscreen and your trem is of the road coming towards you．The use of graphics is very meat and the effect is exaremely life－like．Even the rosd signs become larger and more legible as they appronch you．

The idea is to lap at the highest speed possible．Your score is a combination of average speed， eccuraty of driving and eorrect choice of gear．

You have the choice of two circuits，autatnatic or manual gearbot and number of laps．I wats disappointed to discover that there are no opposing cars to drive against，but the game is guite a challenge in spite of this drawback．

The game comes with an antj－ pirating device which Invalves inpurting colours which you must read off a charl which comes with the game．
Overall，not bad game，and quite challenging．
instructions
80\％
ease of use
graphies
value for money
$80 \%$


## Number Painter BBC E9．95

Applied Systems Knowledge， London $\mathrm{Hse}, 68$ Upper Rich－ mond Rd，London
Number Painuer ts an excefient and entertaining educhtional maths program for live to 14 －year－olds． It＇s in two parts：a timed self－ test and the main game which has a screen layout reminiscent of Acorn＇s Monsiery．Scattered about the levels are random ${ }^{7}$ numbers and operators，and et． screen top are two numbersi one being your starting number and the other the target which you must match by moving e painter around the sereen to paint out the appropriate numbers，which are used to perform arithmetic operations on the starting number，Each sub－game has ia time limit and each new game is introduced by an appealing graphiss routine．

You can choose both the speed of play and level，a combination Which gives 48 different levels of dirriculty，the highest of which will test the reactions and mental arithmetic of any age group．

Instructions are first class and capable of being understood by the youngest of players and the cassette is packaged in a strong box．My only criticisms are of the diffleuty of reading white on
sred random numbers in the game and the use of arrows in the self test equations．
instructions
playability
graphies
value for money

## Doodle on your computer

Paint and draw，there＇s lots more！Find the one，you＇li have some fun

## Where7 <br> Electron E6．95

your total marks and the average time it has taken you to answtr a Micro Power，Sheepscar Hsc， 15 question．If you press the key Sheepscar St South，Leeds LS7 while the computer is asking you IAD the question you set told off in no uncertain fashion and you Where？is in appropriate name store ts taken away．There is no for this educational game．After Jimit to how many players can the game has been londed a map play．
of Britain appears on the screen．After you have been playing In this game your knowdedge of for ：while you suddenly find the geograptical location of there are placts，rivert and peaks places，rivers and peals：in wou have never heard of．The Britain is tested． positioning on the map is fairly
Onoe you＇ve enfered your tocurate．
name，the computer asks you questions by pointing，at instructions

80 \％ location on the map．You are playability 905 given four possible answers：graphics press the number you think is value for money N／A 100\％ sight．If yourse correct you are congratulated，if not you＇re given the correct answer．

After you have answered 10 questions the computer gives you

## Doodie CBM 54 E12．95 （disc）

${ }^{4}$ Quicksilva，PO Bon 6，Wim－ borne，Dorset BH2：7PY
Here＇s another company （jumping on the bandwagon with ja graphics package for the 64 （the fifth I＇ve seeth）．It compares quite well with the opposition．

First the bad new／y，Only hi－ resolution mode is supported，

Once the routine is up and running you get a vjew of the main ment which offers ID options．These sover the usual amodes for drawing lines，circies．
boxes，dot，zoom，data retrieval and others．You can choose between nine brush widths．In the various drawing modes you can draw，erase，flip and fill． When you want to save or toad destgns，directory appears on screen showing which designs are on dise and how much free space ont is available．Screen dump to printer is a welcome and usefut facility．

The package comes with －rentanable instruction book，bul 14 you won＇t need it often since each mode carries a detailed HEL screen．You can toggle between the Menu，sketch end HELP screens by using RETURN or SHIFT RETURN．
I found this package very user friendly and delight．Most important，it＇s cheaper thath most of the opposition and represents excellent value for money．

A．W．
instructions $\quad 100 \%$
etse of use
1095
display
$85 \%$
value for money $100 \%$

## WILDEST DREAMS Softwace Rental

Just a couple of questions for the computer gamer

1. When did you buy your last computer game?
2. How often have you played it?


Buying software can seern a pretty bad deal when you pay $£ 5.99$ for only a couple of hours play.
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CONTACT:- Chris Kilburn WILDEST DREAMS P.O. BOX 84, COVENTRY.
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You are patrolling the universe aboard your trusty fighter when suddenly you spot an escaped space vermin. During the pursult, you realise that you have unknowingly flown into an asteroud belt. A cothsion with any of these huge space boulders would result in permanent damage to your ship and three collisions means certain death for you.

## Main Variables

5 C current score
H1 high score
1f number of shaps left
MX, My-X ind Y co-ordinates of ship
TX-X co-ordinate of alien
A ASCII code of key pressed
DFAD-A boolean to indscale whether you have crashed or not

When thas program is run, the instructions will be pronted and will wait for the Skey to be pressed. Press S and the game will begn. Your shpp materalIses in the centre of the botom part of the screen. Then the asteroids will start streaming down the screen. You have to control your shep left and tight by pressing Z and X keys respectively. To move up, press the space key. The alten will ery to get away from you at the top of the screen. You have to ram it with your ship, wathout collideng with the asteroids.
This program was wntten using BASIC-I which limits the size of the program to 4 K , so if you have BASIC-G you can do wonders to this game (although, of course, it will work with BASIC-G without any modifí-

## Hints on conversion

 'The M5 allows 32 epriles to be moved aboul the screen at various sazes. Because this scroils the text screctis. it would be viriually impossible to convert il to run on machanes whech do not have sprites.However, if you own machntes such is the TI or AJARI, 11 should not prove too ditfocult to convert thus program, even line by line. If you own a CBM 64 without Simon's BASIC, you would have to rewrite the program using the How It works section as a turde lime.

STCHR defines a character or a sprite
MOL colaurs a sperte
COD is used to assign atharacter code (in ASCIt) to a sprite LCC A,X,Y places sprite No.A at co-ordinate X,Y
OUT sends date to an output port. In the program, thes command is used to create sound
cations) by possibly fedefinng the character set, introductory music, bonus scene etc, etc.

When typing th thas program, you may find that the screen suddenly clears and you cannot type anything although the keyclicks can be heard. This simply means that you have accidentally pressed CTRL-Y. To return to mormal screen, press $Y$ once while holdıng dowa CTRL.

## How he worts

t have tried to wtite the program as modularly 解 BASIC allows but if you have BASIC-G, many of the loops which use GOTO can be replaced by the far more
elegant REPEAT.UNTII andrikilion

10-20 RLM statements
4 selects G-I] mode, magnificetion I
50 calls subrouine which defines characters, calls subtoutine which prints instrucions
60 nintalises score, number of Itves
70 clears sereen and mitialises position of ship and alien
© scars keyboard
90-110 update posinion of shap 120 pronts ship
130 prants asterotd and scrolk the screen one line dowb
140-150 check characitrs in ship's position
160-170 move aben
180 prints alaen in new posstion I90 incrempents score of needed 200 if shap hasn's crashed, 80 back to the begtnming of main loop
220 begmnant of score sub5wor
230-300 trate image of alien.
plot explosion in place
310 increments score
320 eqplosion
320 explosion
330 clears screen and intralises position of ship
340 end of subroutine
350 beginnitig of subrouline, called tf ship crashes
360 explasion sound $370-410$ plot explosion 440 clears screen and instialises position of ship
4sh thd of stibroutine
460 begtnning of subroutane, called when three shaps lost 470-518 print end of game message
520 Whet for R 10 be pressed 530 end of subrourne 540-5.50 define characters 660 beginning of subroutine to mint instructions
680 gets nd of keyboard-click $690-830$ Prim tate and instruc1.085

840 scan keys
850-8*0 move shop and almen SN0 check whelker Sis pressed 90 N end of subroutite

10rem fateroid Fishter
20rem By Shingo 5ugiura
301




$801+t A=P$ ek（\＆702B）
$9014 A=34$ then 1 et $M X=M X-\langle M X<30\rangle$
100 if $A=33$ ifen 1 et $M X=M X+(M X>0)$

$12010 c$ to MX＊8，MY＊8
130 Print cursor（rnd＜31）＝0）shr丰《254）＂四＂

$E k(\& 300+M Y * 32+M X+32)+N P$ eck $\& 8800+M Y * 32+M X+33\rangle$
159 1\＆PE＞253 hen gosub \＄DIE
160 16\％＂TX＝TX＋rnd（2）－1

 E
2日B if not DEAD then goto BB－Ise gosub FEND
210 00\％60
220＊SCORE

240 for $E=16410191$
250 out 象名是，B
2601002 to $T w * 8,24$

280 loc 3 to $T \times * 5,24$
290 for $D=0$ to $50: n \in x t \quad D$
30 n next
310 1et SC＝5C＋100
320 loe 2 to 300，300170c 3 to 300,300
330 cistiet MX＝15：1et MY＝22
340 requrn
350年01E

370 10c 2 to MX＊8，MY＊8：10c 0 \＆ 300,300
380 for $0=0$ to 1000 nextiloc 2 20 300,300
390 out \＆20，2E？
480 for $5=\& F \theta$ \＆\＆FFiout \＆20，5
410 for $D=0$ to 300 inext $D$ inext 5
420 10日 3 \＆ 3 3日， 30 日


450 return
460\＄END
47日Print eursor（8，1日）＂G PME O U E RM
48日 Prini cursor（8，12，＂your scorewas w5C

500 Print cursar（8，4 4）＂＂High scort is＂3HI
510 print cursor 58,1$\rangle$ 〉impress R to repliun

53日return
540 FOEFINE
550 stchr＂08141cici43e7463＂\＆o 250，0
560 stchr＂c， 5287 cd 6 biee54c6＂to 25i＝0
570 5tchr m2812b8556e142300＂to 252：0

590 for I 由1 203
600 stehr＂082a2a0日3e645730＂to 254．1
610 riext 0,250 scod $2,251: \operatorname{seod} 2,252:$ scod 3，253


## SORD／CEL MS PROCTAM

64 E 1et $\mathrm{HI}=100$
65日return
6与0专INST

68日 Poke \＆7 O1A： 1
6タ日Pr1nt＂1
ア日も Print
710 Print
720 Print




800 Prsnt tab＜13：＂tラPACE＂
日1日 Print ョb（15）＂Aよ＂
820 prınt t 今bくヲ）＂こ 4

840 1et $\mathrm{A} \$=2$ nkey





9日0 return

## 

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，．num

 automatic flxturess，attion commentary，pesille eneck，scorers． leagus table，cup ofraw，ottc．Printer／gamo save faclittes．
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## Worids at Werr： Chapters 1， 2 83 48K spectrum E2．99

Esteen More Than Equal

These are the lirst theree parts of Whas to obvousty hoped to be a long running sige，Chapter I is a cross－section of the plame Mars Your task is to collect parts fot your escape shup．The plenet is breaking up，and yous must dodge flyang debris and drippting acid to succeed，Chapwer 2 has you on hoard，athenpung to refuel by auming your fuel tinter ac the tanker ship ahead In chapser 3 you have landed on Earth bul must deiend yourself from the carthlings

Graphically，this is for more sophisticated than you theve a

Atthaugh princtpally machane code，there is a BASIC drwer program．The resule is at kight fiter
On the othet hand，you get very tivenave screens in anaque sci－fil mock goihic style complete with 3D．My only quabbles are the lack of provistosi for Joyshecs：In＇s very hard without， and the relura to demo mode every thme you fasl，is annoying All in off，very good，Welt worth the ouslay，though a little more programmang tume in the areas mentioned above would have been welcome．

D．4．
－The dit uns
12ヶ）
playabiltty
graphues
value for moters
（N）


Skyline Attack CBM $64 £ 8.95$
Century Communctations
If 5 debatable whether at is more fun to phay this game or load u． Skysme Anack not only feaves the screen on while toading，but also plays a simple game． S5nake，an hors d＇oetwre for what is to tollow．Ssnake is fun and very playnbte．

The stenario in Skyine Attack is not new．Earth if being attecked by stiens，and you must shool them down 10 save the world．This is：Defender－type game with the landscape scroll． ing both ways and many of the major ciles are represemed．You gari in Londan where Tower Byidge is conslantly rasing and lowering．When you slact an ahen there is schance that it may drop a fael pod．In order to surwive you metd 10

## abunt <br> Empire c｜

many af these as possitbe If soat shoot a fuel pod there ta al $50: 50$ chance that it may tarn antu a cryslal

To visit other cirles，you must sollect erystals．A coumer at the top of the screen telis you how many you need，Some of the eitus are very spectucular：of the North Pole a potar bear slands on a minl and nodx his head，and eisewhere the Suhus waps its tail．The game is fast and furious im a Mirte－kind of way，which a shame since you don＇t see al the graphes－gill，saung the world was never an easy job．S．R．
mpractions
playabiluy
prephics
950
$100 \%$

## 

Shatds．Sule G，Roycraft
Linton Rd，Bazking，Essex

## Empire is a computer version of

 a war game played using thups and moveng bectoss termiories She warld ta divided into 30 lefritorics and you choose 13 of liese as your own while the lenemy，the Empure，chooses ： furher 13．You then allocale your 26 armies actoss yourYou and the enemy attank in Burth Afier the enemy atach you have iwenty scionds 10, respond otherwise the Empire strikes akala．You use the funcuen keys to move round the world You then seetel the territory to altack from and wh ch adjacemt territory to asack．if you gain the terrtors you char move some of you corces into il

There are enklut tevels of play hus 1 only tred the firs？level Halr an hour later I had taken aver the workd
The game leads inself to a certan ambunt of strategic plannung and is not a back patempi at sumple war gaming The screen does not use high resolution graphics but the countries are quite recogntsabie I found it rook a bitile time to gel thon the ebb and How of the screen prompts but was soon． engrossed in the batele with the 12 ripure

F5 and F6 are misprinted as F3 and F 4 in the nistructions bui otherwise a good game．
insiructions
｜playatits
graphics
value for money

## War and peace <br>  <br>  <br> 

## The theme is combat：can you survive？

8
## －tryaty

$1:$



Sheepsar Hse，I IAD

The sene is set on earth devastated by nucleat hombs afier the thard world war Due to the radioactivaty a connabulistic turle shaped crearute known as Krackats has evolved
On the sereen is displayed ： maze of boulders．wulhis which roant the Krackals．You must kill them by crustang them under the
 betulders．You line $=$ rock whth $f$ atath 16 ．
 rock may bounce back and crush you mistead．The Krackas have very zood refleves so make sure you have plenty of room 10

Thete are three games in all．in the second the whole screen is tull of rocks．Some of these rocks are only mi ages and disappear when jou wit＊ through thext．Uniortunately the mutants know whsch rocks are lake and car close in on you quickly．in the thard part all the rocks are invistble and it＇s onty when you crush a bonus rock． that the res of the rocks eecome
visible for a short period
Lots of origanal fealures． smooth sotaphics and exceilent sound．An ercade excriement at
hame
graph is
late for money
$r$

## Volcano：The Action Gume 4ak spectrum C7．95

Computer Megic， 39 Endges $\mathrm{St}_{\text {t }}$ ， Walion on Thames，Surrey KT12 1AF

The object if to escaple from a dely threatenad by volcanic leva fond rocks to ant awiting bogt Reading the accompanyiny blurb compured up marvellouts pictures of lave streams，tiaies， anderground passsages：40， screens above ground；over 254 2D screena below．．＂i wll thy －iscompasied by a superb piclute of a volcaro．

The realsty was vary divappointing．This is，tn effect， a very large maze ghme．Twa anamaled feet are stecred Itrough the mazes which bs progressively blocked by red blobs，sorry ．．．rockst There can be cleared by the use of dynamte collested from boxem，sotry，．．． shops！Food must also be collected，otherwise，lase a life． You may also come seress a blow moving fed smudge．This is the lava siream ${ }^{+}$

You ean tho enter the underground passages．The 301 graphics here 日re rather line，but after wenderime for 15 muntes it all looked the same to me，to 1 gave up
A free map，satd to be essential t given with the game，but ！ didn＇t get one；perhaps thes was the probtem．In comparisoh With the claims，and indeed the same concepl in other hands，very dismppoanting．

Inctricio pons
playab lity
graphics
value for troncy

## COMMODORE 64 PROGRAMMING

## David Rees invites you to study all the potential of the Commodore 64 keyboard. You can control speed and alter the keyboard memory read on for Eetalls

One of the pounts made when people extol the virtues of the Commodore 64 is its keyboard The keys are sculptured to the fingers' shape, are well balanced, springy, and of Just the right senstivity, However, no one seems to mention thers performance as far as software is concerned. Watch out: thos barmer of silence is about to be broken!
The Commodore keyboard has massive potential, the only problen being that the belter the facilty required, the longer the program needed to produce it. One of the easiest effects to produce is key repeat. The tocation of the key repeat register is at byte 650, and it is normally set to zero. However, by POKEIng it to 64 none of the keys repeat, and 128 makes all the keys repeat.

The other key repeat feature which can be controlled is speed. Location 651 controls how long the computer watts between the time you start pressing the key and the tome when it starts repeatng. POKEans one produces a quick stant, while zero produces the longest delay. The only disadvantage is that the register with your value is in a one shot mode, so once your delay has been used up. the register returns to its original value.
The easiest way to intluence repeat speed is to change the delay before each Interrupt Request or IRQ. By POkE1ng location 56325 with a value between 10 (fast) and 255 (slow), you can vary speed to a large extent. However, a fast cursor slows down a BASIC program, so the best use for this is screen edatug.
One of the annoyng thengs I find when using a keyboard is typing in many letters and duscovering that only a few have actually been displayed. The opposite occurs when a neat display is ruined by a group of letters appearing when you have

# Take a close look at your keylpoairal 

been keylng them in slowly. The caluse of ths aggravathon is the keyboard buffer. Thos stores keys when the computer is doing something else. However. as it is set it can only remember 10 keys, so ether to forgets what you typed, or it remembers too much ${ }^{\text {t }}$

Luckily, at cure is al hand, in the form of locasion 649. This contants the maximum buffer length and can easily be varied berween one (sungle key entry) and 15. However, ctutnon is needed, as making the buffer too long erases important memory locations, 50 go beyond 15 at your peril.
My final tip about the Commodore keyboard wall probably be the most interest-
ung, as it has wide applications. Many expensive computers have what is called Multiple Key Roltover. This means you can press scveral keys ar once, and the computer watl remember them all. The Commodore manual says you can only obtain one key at a tume on the 64, but wath a litile fiberal POKEIng many effects are possible

Using my meihod, the keyboard can be split into elight sections, exch corldantag Iwo columns of keys, Each bit in location 56322 represents a parr of key columns (with some expermmentation you will be able to find which bits control whsch keys) and the keys will only be recetved if ahat but is on

Thus, by switchung on each but an turn and getirg a key, eight separate keys witl be received The following line will allow you to do this $(\mathbb{R}=$ key row);

POKE 56322,2 R: SYS 65439. GET AS: POKF 56322,255

Always use POKE 56322,255 at the end, oiherwise the keyboard will become almost useless, receiving only few keys, and you won't be able to start or stop anythang. How. ever, when the routune does run correctly it is invaluable. Fas! typing is made much easier, but its biggest use is in games, where you can have up to eight people playing at the same time!



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Minorsoft programs are available from selected branchess of Boots, W H Smith and Spectrum, and all leading software stockists.
Or order direct (cheque, Access or Barclaycard) from MIRRORSOFT, FREEPOST, Bromley, Kent 8R2 9UX (no ottamp needed).

## PERIPNERAE MTVIEW

Fouchmaster E 140.96
Touchmaster, Port Talbot, W Glam SAt3 IWD

Alchough thas review is also avalable ob the BBC verston of the product to is also avalable for the Dragan, Commodore 64, VIC 20 and Spectrum computers, each needing e different interface but using the samer rauch pact.

The method used to inpur information to a oomputer is often seen $\frac{75}{7}$. problemt for the rave wer. The search is 日lways on to find thew and sumpler methods of telling the machunie what to do. The use of a graphse tablet is one alternative and that is what this product package represents. The bos contanns atl you regutre to gel the syskem up and working within musuter and I must say that the pictures in the leafles supphand made this Farly simple. Timere ite Iwo leads to be connecied, one to the cemputer and another to the power pack supplied.

The put atself is arey plastic box, 13 by 14 iaches with a pleslec matubrante in the centre of A4 dimensions. This means yot can prepare a drawing of dther detafil on a shedr and then traprier it to the sctect, With the pad come the leads, pen/stylus, two instruction books, boflwere ceastrese and an order form for more solware. The asifwate supplied is drawing program and allows you to draw frect nad on the screen, bus more of this fater

When you have the undt coniected there is a short lisiting for anch of the muchenes wheth will bllow you $\$ 0$ find the location of the 31ylus in $x$ and $y$ corprdmate values Tinis was where the first disappesstment surfaced

## Draw and design by touch

## Touchmaster is a new graphic tablet for use with your home computer. We review its capabilities for you

smple: all yout need do is change the wealing of the value returned th the X bxis to that the value can then go up to 1280 If you do this you ker a thuch more dratate result on screen

The concept of Touchmester is grtactive, bet use is lexs than shtusfactary in my new for a starl it is mis-named: you don't have to touch the pad so much sa jump on at to get at response. This is a real drawtack and stopped my son, gied six, from achervang the results thas be wanted. since the amourl of prexsure nerded to get a result was far too high Allothet problem is that drawirs too quickly, as you tend to do


Touchmaster - play by touch
The BBC Jisting gave coordirates of up to 1020 on each axts. This meants that e pad with an oblong shape was feturning values which only covered part of the screen and whith reated the pad as of it were square. If you draw lines of the same length in botk axes they woud be differenl lengths on the screen. This is not what most tisers want. I fisel, and the remedy is quite
around curves, means that the values are not passed quickly mough end ethes blanks of stratght lintos were the rewtr Resolution ts good and thang the lighest resolution mode if is possible to define 256 goinis in each direction.

The software provided is a very hasis drawung package which I cannot really recommend for serious use. It is possible to


Smons Says on the Touchmaster
chatage the cotour to any of the ones avalable on the EBC but there is only one detined at tame and there is no logical colour, actual colour conversion porstble. Tha means that you cannot have background colour change fifler you have started drawing and that it is diffictult to the up screens for antmatom effects. The etrcle drawing leaves a dot in the centre, looks ellipitical on occaswons and can bedifficult 10 use
There is the chance 10 change the brush type and style and this can give attractive effects Unfortunately, however, there is no erasure facility, making that a major task in itseff Screens muts be saved as a section of mimory, in the ByC's case taking 30K. and there at mo redrawing soflware ether Texi canyat be mpat to - pacture without sawing a sereen and then usang anotice drawing package and there is no opinen to dump a screen to printer. As 1 said at the begraning of thes paragraph, thas is a very baste progran.

I must mension the documprisation supplied. The two booklets are attractively
produced but consain no real hard faformation aboul the produck or how to use it outpul it your own progratns. It isn t difticult and I managed to have it working in a matter of seconds but it would have been nice to have had some technseal mformetion sinpilied. As the booklets are, they wre sedily lacking. Another problem tis the neture of the mat itsell. It works by detectung changet of reststamee in two axes caused by a depression on its surface. This works very well uniexs you press in two places at the same time. when it detects the value as beng half way belween the iwo depressions. This is nor tikely to cause problems for most users but might do so if used by youmg people or by the handicapped
Overall. I find it difficult to see how thus pad can be used if a smous and productive way and 1 chnnot really see anyone paying $\$ 150$ for a toy. It may be that the Touchware which you can order wil! mate th more viable a propostion in a range of arcas, but I will need some convincing thar it is goint to be worth the mancy
D.C.

## Caillee 48K Speckrum 25． 75

Shards，Sulue G，Roycraft Hse． 15 Linion Rd，Earking．Essek

The plot for this rext adventure is roughly 2000 years ofd．It is sec in the early days of the Christian erat during the reign of the Emperor＇Tiberıus
After the mandatory lugh resolution sereen picture，the main program loads，whereupon you wake up in a graveyard，with if mission to fulfil． 1 fount progress agonisingly slow，due to my lack of krowledge of the scriptures．Every tume I used the HELP faciluy， 1 was directed to an agproprate verse in the Dible When facing defcar，I can never resisl a litle exploratory，hopefu！ press on the BREAK key and surprisungly，it worked，revealing
the listurg of this biblucat epic．
II＇s a compelent programmang ffion，but I found it stodgy and lackins in innovationt．Interpre－ racuon of human input was not very fexible and it responded only to one：or al most，wwo ward insinuctions
On the whole，the plot was a refrething change and I feel thal the program coteld well find application as an educauonal and in religutus instruction classes． I＇m not sure that it would find favour elsewhere． M．B．
mstutactions
704
playabiluy
604
graphess
464

$$
\text { value for money } \quad 50{ }^{4}
$$

17nt

## Chartbuster CBM E4E9．95

Alligata， 1 Orange St ，Sherfield SI 4DW

I have often wondered whal software houses do wath their products when sales tall off． Now I know．They bring out compendiam
This packige contains live BAmes：Blagrer．Eagle Empate． killer watt．Panc Planet and Bugblaster．

9lakter is a tteky graphcal advenime of very zood guality wheth is geod for many hours of frustrataon．Killer Watt is more bizarre end involves flying abouk a cave system shootung light bulbs，fish，clok kwork ducks and कuls अgint reavires The Trat sagen is mine oupl pentios，kus be rest are sppaling tricky ．．．good fur

Eagle Empire is a version of Phoemx and Pance Planel is a version of Partuc fligblasier is a version of Catapilar，and quate good．There sa a Wide range of creepy crawlies to massacre
All games are turbo loaded and are of a good standard．I dic nore that one side of the tape showed the usual poor Alligata dupitication but fortunately the oher loaded well．The games performed weil
Overall an interestens assort－ mens which，at E 2 a bame compares very well with the budget game sellers．

M．W．
instructions
$60 \%$
ease of use $\quad$ B5\％
graplucs
$75 \%$
$100 \%$


EREMFTIED Tofen

## EBM 54 E9．95

Level 9 Computurg， 229 Hughenden Rd，Hıgh wycombe， flucks

As an adventure fan，I viewed the prospect of reviewans the ratest Level 9 game with excratment．＂Thus particular game maiks something of a landmark since lt＇s the first Level 9
Inventure with graphics and， much to my surprise，the game doesn＂t suffer adversely．Granted the tocalion descriptions are； shorter than belore，but If am assured there 45 athout 38 K of ${ }^{\text {n }}$
Mie game follows on from Snowball and features your alite sko kim Kurbetiey stranded on the Plater buen fighting for your Ife The senhario is extensive with wout 250 locations．moxt
of them diusiteated．I won＇t guve my detals of the $\Gamma 0$ ．but in ketr you bime for many an hour The game is full of lisks ywevous rout gann pomas fo wister the aswellure，not fo sooleel ng treasure

The dlustrations are drawn in mult ounr mode and whice relat bely stmple，are wel designed and do enhance plat Best of a．i they re drawn （awiks The gatme is aecom palied by a vers giond insirution manual and the hint overall．Excelient value which， in my view，is unsurpassed by any orher software house in this couniry．Buy it and mןjoy．A．w． Instrucfrons
case of due
graphes
valise for money

# Amazing adventures 

> This selection of our adventure software has been checked over for you by our panel of expert reviewers

## The Pettigraw Chronicles egir spectrum E9．95

Before you fant at the price， should explatr that for your money，you get muracuve book ntyle packaging with two cassetten，Each cosselte holds two subsianulul udventuse games， so al $\mathbb{f 2} 50$ per game you cannot fault the vilue for money．

You take on the mantic of Rupert Jumes Petagrew，wectel agemt exirgordinatre and your mission it to rescue five tellow agents and find the legendary Saltan sword．Each of the four games are separate adventures is their own righla linked by the common theme

In parts，the adventures are mixiures of semi－arcade games， togenher with the converstional texi style appromech．If found thus quite novel and a vefreshurg departure from the norm．In addiutun the games have a clock －one hour＝one minule－ happen if I sat asound and made no keyboard uppu．Aftey a long wal，one of my agenis was bumped off，to the game goes on whether you particspate or nol！

1 found one or two manor rough edges programmsng－wise， but on baiance I liked this muture of puzzes，games and ext adventure and felt II represented good value for moncy
unstructions
playabilaty
graphics
value for money


## Cave Fighter 

Bubtuebus， 87 High Steen，Ion bradge，Kent TN9 IRX
You shauldn＇1 have mach trouble in guessigg that this is 音 efaphas adventure in whach your control a taves each of the same tay with changes for varnety．The caves are wider tham the screen so it scrolls 10 accommodate yous movements．As expected they art inlzabited by alaties who mean instructions intrant death．You can shool ease of use them．You can move about by graphics walkug，jumpung or using ropes hanging from the cave roof．You can jump to differtot heights b setting a jump sirengith neter
You can select any cave to play and have up to 99 lives．The atm ts to paun points by lilling nasties and to complete all the cave The caves beconte more difficul

## 3 you go nt

The some apens to e rendering of the theme from Chnnots of ire and is of t rensor Handard graphically．The anima． tuon of some of the nasties is araticularly ambusing．
A fair game but no better than average．I became bored atter the
frst live caves and thank that
M．${ }^{\text {W }}$
80\％
空宫
$60 \%$


## Suntntap Games CBM 64 $\varepsilon 19.99$ (disc)

Qurckolva, $P O$ Box 6, Wmbourne, Dorset BH21 7PY

The Oiympics has produced a phethora of games based on whietus events. Summer games is a more origmal coliectmon and macludes swruming and runming, pole vaulting, 8 ymatistics, diving and clay prgeon shootung
The swomming and runnung tanded to be mindiess but the other events requared a thitle skill and practice. The game is dise based and offert nace options and excellent graphes if you want to perfect yout performance in any evenis, there is practice mode Up to rimber players can take part and a chore of several nationalities is
avatable. At the end of tach event the medal ceremony takes place. Record scores are recorded on the disc for furuse games
The graphics are excellent using sprites or multicolour hı+ resolutuon backdrops. There is an opening ceremony wath Olympse Jame and doves. The sound is sood with mice tunes and applause

This is sareets ahead of the others in graphics, anmation, realism and originalıy, It is howewer raher over priced
mstructionls
$90 \%$
ease of use 90\%
graphics $100 \%$
value for maney

## 



Micro Power, Sheepscir Hise, 15 Sheepscar St South. Leeds LS7 IAD

This game is avaitable for four different machunen and this lversion is second to none. It is a Vigtadders and levels game with fous unque screens each providung in number of hazards and oppor. tunities
You are in a haunted house, in i the form of $n$ Pactianruke. creature, and must recover the gems that are on the top floor. On the way you can score by caling the edibles and your must avord the ghoul who tries to calch you out luckily he moves 3lowly und you can dodge away from hams

There as even aghoul-destroyIng pilt, which must leave such bad breath that he clears off the screen immedialely
The kitler spikes, walking
Platforms and moving (hicorbourds all make life more Wdifficult. Despite the tmall number of cosirols, left/right and jump. this is a difficult and addicıive game.

The musisc and sound effect are some of the best I have heard for thus machane. Ammation is excellent and even the anumated Nhigh zcore chart is worthy of pratise A good game in all Crespects.

## Mnstructions playabilıy graplacs

> 1. ${ }^{1}$ value for money


# From sport to spirits 

Here is a selection of arcade games which take you from the olympic stadium to a mysterious haunted house

## एeकानonic CR1 6.4 K7, \%t

Mr Chip, Neville P1, Llandudno. LLL 30 3BL
I know that you are thunking ${ }^{+}$Not another Pacratan clone" Rus program is a new umproved go faster version of the od favourite.
The layout to the sume with the usurid shosts, frut, dots and rotound hero. It does have a few enhancemenis including several mazes and hyper-ports. These forts enable you to escape from toght corners and they dtrimp you in another position an the maze

The ghosts appear to be slightly neastic and faster than previouls versions, and I settled for ealung dots and frutt rather than try to get them. Thupgs didn ${ }^{2}$ ksedh to get much harder as you progressed through the

Graphically the same is as good ts the arceide origanal wath all the ammation and colour features. The pound $x$ equally good

1 query the logice in bringing out att exhanced version of an old game. In spite of it's wirtues,
t canhot see it seling ts well as in shouid. If you don't have a copy of Pacman, however, get this one.
instructions
ease of use
$90 \%$
graphics
$70 \%$

## 

## Watil Hervor (x)

Macro Power, Sheepscar Hze, Is Shecpscar St South, Leeds LS7 IAD

Thas is a ntruge game that is more likely to be as acquired taste than an unstant hat
It is unusual in that if is an two player pame and only really begins to work when you compete aganst another player. t find that the comptuter ts almost unbessable in the practice mode
The arn is to steal 1250,000 before your opponent. What ere we leaching our chaldren? This is done by collectong gems that appeat on the screen and taking them to your hudeout
The difficulty comes th the, form of the killer Droids hired by the insuranice companies to stop you. They force you to drop your gems and senurn home you get caught. Added to this there are the polase cars that follow you around if shot $\mathrm{at}_{4}$ gold to buy more amrinunition for your six shooter, Smileys Who send your opponent away, cars of beer and the DH, the purpose of which allides me
In all, thes is a complex same that takes some getting used to but wuch can be greas fizn if you have an opponens
instructions
playabiluty
graphics
value for money


## $\rightarrow x>-n$



## tr-

## $2 \times 81$ PROGRAMMING

##  rousine for the $2 \times 8$ 1 Here＇s a useful little routine for the $2 \times 31$ by Nick Godwin． Use it to delete blocks of lines and at the same time，it will act as a line merge

Ihe orithal tite of it 5 routrie Was R usk Drete，shince th u，is conur ved as a means of dele uhe large ramber of anes Iram a program ill bne go Honeter，if coll d iso be ent ，led I ithe Murge，a ace thal is ulati 11 a chatily diers
I it program works by thangime the record of lire－ length woted natime，specit ed ar Cl ，wo that it mith tees that ine and all st trexpuent lines of o and meading lle ane ，wevted at $\lambda 2$ the hotom ol The first guse of（manter 27 of the $2 \times 4$ ！Alamal dencrites the way a BA＞k line is orkaptited

Fo operate the romi ne，RUN for col0）ye 8 and enter the ntisber of the lifst wne， for awed by the nursher of the last lite of the est ot fines that sans winh to mer，te hewether I Ines syys to yyx 5 bith the adturest al the start of the lirst imite， 4 h．，h is 3us gned 10 NI
 the end of the lats line，and in s
 $t=$ the torat number of bytes from the teremring of the forl －ne to the enat of the last line
 med the record of me nerneth fullowing the hirst tate number

The computer then＇th nhs＇that the firm，he endes at the end of The rast lise
Ihis means that if the forst line is hen deetes，＂theses a． the secitied subver，wetht ines with il Alemalasely，the whp，cre set of lises intli be
Pukt with，sar，a lum stop
（C HRS 27）apart from the f． 9 －haracter，whith shourd he P（OkE．tit in REM（COI）E 274） thas makes a lung REM fialenemt wh ch call then he wed 10 hold machire－wode Tr sis can be achesed usirg the followirig ruat，the

| 153 193 39 | FRF ${ }^{\text {a }} \times \times \frac{1}{2}+5$ TO $\times 2-3$ |
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PARCO
Electrics


## SPECTRUM/2X81 PROGRAMNING



## Programs sometimes crash when you press the wrong key at input. David Nowotnik, HCW regular writer, shows you what to do to prevent this problem

be integer). If you want to check for decimal numbers, the most conventent way is to incorporate a counter, which wall count the number of decmal points found as the check routine moves along the entered sang. If the court exceeds one, then the entry is invalid.
Here are some program lines wheh can be added to the original check routune (plus tine 125) to give a complete numeric inpul cheek

## 105 IET $n=0$

127 IF $\mathrm{x}(\mathrm{t})=1$ " THEN LET
$n=n+1$ : GOTO 140
$150{ }_{100}^{1 F}$ n 1 THEN GOTO

The routune is best employed as a subroutine to allow all numenc input requests to be checked. You could improve the routine by addang some user-friendly messages to tell the user that his input is invalid.

The routune is writen for the Spectrum, but should work on the ZX81, apari from lime 127 in which there are two statements, which musi be separated for the 2X81.

One omission m many of the serious application prograns $\ddagger$ recelve to review for HCW is the lack of a check routine in numeric inpus. Lookng at the listungs of these programs, the lines which request a number are usually just INPLT $x$ (or another variable). If, by mistake, e key other than a number or a minus sign is entered as the first character of that number, then on pressing ENTER, the program will crash with the error message "Variable not found? Good programs should not crash so easily. The way to avord thas is to intorporate $\operatorname{l}$ routine to check that all the entered characters are valid.

An example of this is given in the program tines below'

100 INPUT $x \$$, LINE
110 IF $x \$=\| "$ THEN GOTO 100
120 FOR $f=1$ TO LEN $x 5(i)$
130 IF $\times \$(1)$ "01" OR $\times \$(1)$
"9" THEN GOTO 100 140 NEXT i

In line 100 , you are asking for a string input. The LINE function removes the quotation marks from tither side of the flashing cursor giving the appearance that a numeric input is requred. Provided that you have not simply pressed ENTER (line 110), the strmg is checked to see if all the
characters lue between 0 and 9 . If any fall outside this tange, line 130 returns you to the anput request.

You could aler this to print an error message on the screen (this woutd make the routine more user friendly) before returning to the unpui request. Once you have confirmed thal the input is vald, then the VAL function can be used to convert the string $\pi \$$ to the required пumerc vanable, e.g. LET $\bar{x}=$ VAL $\delta S$

This routane will only allow the entry of : positive, integer number (or zero). The check routure will have to be more elaborate if you whsh to check for an inutial plus or thunus sign, or check for a decmal pount if you wish to enter more complex numbers.

If a plus or thonus sign is entered then it must appear as the furst character to be valid. Therefore, a line to check for thus could be:

125 IF $\mathrm{i}=\mathrm{I} \mathrm{AND}\left(\pi S(1)={ }^{16}+{ }^{n \prime}\right.$ OR $\left.\times x^{(1)}={ }^{*+*}\right)^{*}$ AND LEN ¢ 5 THEN GOTO 140

The iength of stang check in this line is required otherwise entry of just " + " or "4_" would be valid
A decmal number could entiner contain one decimal pount, or no decumal potnts (if the number entered bappens to


## COMMODORE 64 PROGRAM

 ( 1$\rangle_{\text {i }}$ or $r_{\text {test }}$ by ceorge sykes will check how well you know the definitions of certain words nce n. (Halding of) two - ; one ranwingi
 O /a'This Commodore 64 program Atime

- Ithas a word game with an chucahoral havour in when - dr the computer kiver you a hord 6h defimutions toul mast house Whed, After vou have done severa, After vou have done severas, L/f overall siore and the carrent Ux §') solutions go that you car tad tell ATM Int vouabulary ss


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gighec. }+\mathrm{ in or (arch.)
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## d-nör

## edu <br> \section*{n.}



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dwareror + (ik plismestranenty e, w aduice, unbernd v.t. \& in adu: blowd position, straight, (unbént). Change from bent opprobrocus ; in llbrǒlyy n. I.
 (Naut.) unfasten (sa;iverswlive cast (cable) Jn Adv

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\begin{aligned}
& \text { s. cast (cable) lo a A A A } \\
& \text { and }
\end{aligned}
$$ whóre (húr) n., \& t.I. 1. п. Prostitute; ~-house, garden or gr brothel; ~-master, -monger, fornicator; xhibition or pa cond of op) sadion morothel, (arch.) dislined person. 2. u.h. (arch.) a (as zoonds





## COMMODO



318 IFSC >50THENB30
fulvo
313 1FSC 3 3UTHENSED 1-tieous
315 PRINT"


330- PRINT" . VERY GOOO!KEEP TRYING, YOU"HL IMPROVE. "\&80TO36a

350 PRINT"I TEREIFIC!ICAN YOU OO IT AGAIN?"
360 มFRD 18 THENEDSS




400 GOTO 360
1096, UATABALE SPHERE CONE PYRAMID, CUEE
1010 DATATDFE, BOOK, GRAVE, SOUND, BIGGRAPHY
1 IDE I IATAMA 1 M, CRIPPLE, SEA, MOSJ, ANGER

1040 DATAALIEN,FORE IGN,FR IEND, LEND, PASEAGE
165B DATALUCRE, MONEY,RUST, SHINE, HATE
1日EA DATAAL IAS, NICKNAME, SORRY, BLOEE, MAP
1078 DATASPINE, BACKBONE, ROTATE,LASH, GROOVED 1 OEG PATAREFUND, RE IMBURSE, DENY , EORROW, MLLOW $1 \mathrm{~A} 9 \mathrm{~A}^{\prime}$ OATAEERATE, SCDLD, DEVALUE. POOR, ANGRY 11 OB DATAPREUARICATE, GUIBRLE, CHEAT,REFUSE, DISOELE 1118 OATAMDRSEL, FIECE, HUMAN, SHELLF ISH , TINY,
1 120 DATASAREEN, BULLLDER, TANK, WARR IOR, VINEGAR
1136 DATAPUREE, CLEAN,EKITE ,FLOOD , SPEND
1148 DATADEFER,POSTPONE, ADMST, OENY, RECONEND
1550 DRTADEFRAY, REPAY, WEAR, ENEMY, BATTLE
41EA DATACOPPICE, WOOD, CATOH, GARMENT, ROCK
1170 DATAEMALLOP, BOAT, ONION, PRE TENDER, SFILL
116 OATAMADSTRUF, MEOICINE ,NOSE, JOKE FORMHA
(horse, carria.
on hire thus $c^{\circ}$ ?

1190 DATAPAGENT. CARNIVAL, DESIGNED. TRADEMARK, ATEENOAN E I

1210 DATARUNEIBLE, SPOONLFURNACE, CCMICAL,RUSTPRODFAR)


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1256, DATAMEDIOCRE, HDO IFFERENT, OQCTOR, ANC IENT, UNHAPPY
12EE OATAMAXIM, TRUTH IJAWBONE, RVERAGE, GREATEET
127 OATA
I2日: DATAENTICE, ATTRACT, AEGMPLETE, DOORWAY,FRIEFOSHIPI
1298 DATAADAEE, PROVERE, EXTRA, COUNT \$NEWTOOL

1310 DATAMENDICANT', BEGGAR , REL IGOUS, SORROWFWL, ENEINEEGOKIOLY
I 320 'OATAMANEQUIN, MDDEL, OANCE, CLOLN, LIGAR





1498 OATAAMPL T TUDE, RANEE, ABILITY, HAPPINESS,LOUOEK






## 64 PROGRAM






```
2R7日 INPUTMG-ND-TC, AGAIN<, S% 
2880 IFS末昭级)THENTE日G
```




```
3PDE PRINT"H, .HHAT IS- THE WORO E-NEARESTE+ IN MEANING TQ"
```








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30G0 IFR方=B多(*)THENSDOQ
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```
3080 IFS悉#S(N)THENTOEQ
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407B INPUT"RNO.GO RGAIN =S事
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SODG PRINT"T一NHAT IS THE WDRD MEARESTH. IN MEANINE TOM
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50己0 [B [:N*NTM
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```
BPCQ PRINT", THINK YOU SHOULR REWMRD YOURSELF=
803日 PRINT"I_WHTH A GAME OF "SPACEN INUADERS.
```




```
B%51 END
```








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Phease subily the toltrowng progums
have o 億 frecron specirm compuler (crerele os necessary) venters v 3s
Adaress

## 2X81 PROARAM

## You've got a choice of three courses of action when faced with evil monsters. How will you act? By Alastair Macdonald

In this gine you are an af tithed Wally and you must climb to the top ot the gloomy cast,e and fight, fath and brithe the ebl, monsers who are Hokk+ly your path Lath of the Tioniery the a varthok sum of mioney, and it you will your theht inganst a monster, hou keef the money fou begin this gatue with a randum number of power pronts and filu

## How it works 2-1.30 opening display

$140-300$ information (choosing castice and sarength)
321-354 information* which monster you have rounci, how many ponms you both have, and how much moncy you have
355-392 asks what you wish to do tun, light or bribe


400-471 bribe subroutine
500-589 fight subroulupe, how much money the monster has 610.670 running subroultne

1012-1200 extra finds which are not monsters
3020-3060 end of garde cholce: plav again or not
$\$ 900-9030$ runnugr out of powet pe nis, end of game
s500-9520 runnuns ou of money mialine
999 -4949 save game and rum it on leading


5"
163 IF $x=$ THEN LET A ${ }^{\circ}$ F"EVIL"


189 LET FFige
176 WGINT WALLY HAS ENTEREO THE CASTLE OF HALG! "AMD MHSTER

"180 PAINT " ON MIS WAY HE WIL $\angle$ MEET STRANGE CREATURES WHO HE MUST FIGHT, BRIAE OR RUN RWAY FRO 14.

181 LET SEINT TRND*4QQ日 + 1
196 PRINT "O HE HAS A FOHFR RI NG WHICH OIUES HIM H, SH.. STRENGT H. ON HIS HAY THE MONSTERS THATH E MEET HILL MAUE CERTAIN AMOUNTS OF TRERSURE FÖ ME BEATS "*EM UP HE EAN HAUE THE TREASURE: "O 1OQ PRINT "IYOU HAUE EIRQ: TDGE TART WITH,
2פEPRINT AT 2i,0;"PRESS ANY KE



278 SCROLL
39 NEXT $^{3}$ I
320 8CROL


ఆTH RND ${ }^{\circ}$; 5
ज24 LET





它: IT $x$-1 THEN LET EFB A UAMP



## 2X81 PROGRAM

```
    343 TF X=4 THEN LET B*E*A BANK
```



```
    345 IF XES THEN LET R串#"Я UIZAR
0'*45 IF xa> THEN LET B&E"YOUR HI
FE",
    34B IF }x=9\mathrm{ THEN LET R音=*品 TREE**
    34.9 IF X=18 THEN LET 悉="SUPERM
351 IF X=E OR }x=10 THEN GOTO IQ
AR
    352 IF xm9 THEN GOTO 11@Q
    353 SCROLL
    3E4 PRINT "YOU HAUE FOLSND ** B#
    355 SCROLLL"#UIL& YOU:"
    357 SCROLL "FIGHT,RUN OR ERIBE?"
    351 SCROLL PRINT*INPUT F,R OR B"
```



```
    361 TF U##*F", THEN GOTO 5%O
    38Q IF U若#"F" THEN GOTG 5*&
    391 IF UHF"'S', THENNGGOFO 4BE
    400 SCROF
        PRINT
    IEE?** INPUT &
```




```
    441 SCROLL
    443 IF R,O THEN PRINT "PHE#,YOU
    USOT GOT OLT OF THAT.
```



```
    45DITH'YOU'HUENUUST
    THAT MOA&D THEN PRINT OENSULTED
    45RT MONSTER,ST".5 TAKEN"
```



```
    4.
    471 GOTO 38G
        CR=INT (RNONBRC\*1
        CROLL "THIS MONSTER HR
        "THIS MONSTER HAS y;
        R尔
        SCROLL "POINTS,HOW MANY UILL
        \5%*"
        OLL
        THEN SCROLL
        THEN SCROLL
        "P=3.HEAD
    GBNGINQ IT HON+*TH HELPP,**S,HERD
```




```
    625 LET OEINT (RND*R) +1
```



```
    52g scROL&
    S3G IF MMEAENU ANO Q=1 TMEN FRI
    TT "YOU SURE GRE MEATY.
    51 IF Q =1 THEN SCRDLL
    540 IF M>G*2-U AND O=2 THEN PRI
NT "OK ME-MAN4,DON**T SHMOH OFFP"
```



```
NT "THAT MONSTER GAUE YロU A DIRT
    543 SCROLL
```



```
MT "KICK GND STOLE SOME MONEY="
545 IF M>G AND M&EN# TMEN LET F
=F-50
550 IF M<G THEN SCROLL
551 IF M<G THEN PRINT WTHAT MON
```

STER SMASHED YOU

555 LET $5=5-M$
55 5cRa는
58a cata 3

511 LET S＝5－1日
5sㄹ 5CRDL
621 工F KFi THEN PRINT＊YOU ARE
GGRNERED YOU CRN DNLY

4.

E3Q IF $\mathbb{E}=1$ THEN GOTD EGR
E60 PRINT＂YOU GOT RURY＊＂
670 GOTD 32®
$10 \Leftrightarrow G$ LET M＝INT（RNDF1日）＋1
1039 SCROLL
1819 PRINT 8 ＊


1936 知的 3 3
1100 SCROLL
1！ロI PRINT＇${ }^{1}$ YOU HAUE FOUND R TRE
1102 serRLL
11 10 PRIMT ${ }^{2}$ LUCMY YOU，ELUNES E
FT TREES
1114 SCROLL 112 HRINT＊HAUE 9 FEAET，AND IMF
RGUE Y日UR

TIME．
1115 능ㄷ $5=5+50$
1200 कот日 320
3020 SCROLL
$30 \% 1$ schol
쿨ㄹ BRROL
3023 SCROLL＂WAMT TO TRY ARAIN？（
$Y(N)$ ．．
$362 \theta$ SCR는․


3g48 IT b
E＂
3050 IF D
3056 5F口F

ERCHED THE＊
7693 कCRINL 7 TOP OF THE EASTLE，YO U HPUE FOUND＊

FQQS PRINT＊THE LOOT．YOU FINISHE －YOUR QUEST
7025 SCAㄱㄴ



8018 PRRINLL $\quad$ SUPREME RICHES ARE $Y$
OURS ．＂

9080 5CRTLL
GO1日PRINT ッYOU HA\＆FE RUN DUT DF POUEA PQINTS

9日月员 PRINT＂YロU FRE DEMD＂
9830 6日T 3 을
9500 5CROL
9501 FRTNT＂YOU MAUE RUN DUT OF وロU日H TGUGH＂
9509 SEROLL

95it SCRGL： 4 RINT MO MORE RRIBING FOR





## SPECTRU

Listing

```
    1 REM Jackpot By A.G.Bird
    2 PRINT AT 10,10;"Please Wait"; POKE 23609,30
    3 GO SUB 9000
    * GO SUB 7000
    B LET win=0
        6 RANDOMIZE
    10 LET +F="MNOPGROPCDEFAE EFEFIJKL"
    12 LET g*=" PRESS "SPACE" FOR NEXT GO =. OR (E) TO END
    15 DIM i(21): DIM b(21)
    20 LET i(1)=2% LET i (5)=3: LET i (9)=4: LET i (13)=5: LET i (17)=6: LET i (21)=7
    24 FaR f=1 TO 9: LET b(f)=1% NEXT f
    2% FOR f=13 TO 2&: LET b(f)=0s NEXT f
    29 REM Dram pane
    30 PLOT 1,7: DRAW 0,151z DRAW 15,15: DRAM 80,0: DRAW 15,-15: DRAW 0,-151: DRAW
    -1,0,0
        40 DRAW 15,24: DRAW -9,64: DRAN 0,49: DRAW 9%,0z DRAW 0,-49: DRAM -8,-64z DRAW
    15,-241 DRAW 0, -7! DRAW -110,02 DRAW 0,7
    50 PLOT 16,32: DRAW 日0,0: PLOT 日,95: DRAW 96,0: DRAW -14,14: DRAW -6B,0: DRAW
-14,-14
    60 PLOT E,144: DRAW 14,-14% DRAW 68,05 DRAW 14,14
    70 PLOT 22,109: DRAW 0,20z PLOT 43,109: DRAW 0,20: PLOT 6日,109: DRAW 0,20: PLO
T 90,09: DRAW 0,20
    80 FOR &=32 T0 80 STEP 12: PLOT &40: DRAM, O&32: NEXT f
    70 PRINT AT 1,3; BRIGHT 1; INK 4;"SPECTRUM"; AT 2,3I "JACK=POT"
    100 PLOT 112,64: DRAW 16,0: DRAW O,GO% DRAW -9,O2 DRAW 0,-72: DRAW -G,0
    110 INK 4: PLOT 159,12 DRAN 0,173: DRAW 96,0: DRAW 0, -173I DRAW -96,0
    120 INK 6; PRINT AT 1,22;"JACK*POT";AT 3,25;*BY";AT 5,22;"A.G.Bird"
    130 PRINT AT 6,3; INK S;|"AB";AT 6,6;"AB";AT 6,9;"AB";AT 7,3;"mm";AT 7,6;"_m"
|A
T7.91""
    140 PRINT AT 10,22% BRIGHT 1; INKK 5% "YOU HAVE";AT 12,24;")",#camh
    150 PRINT AT 1日,23; INK 7; FLASH 1;"PRESS";AT 20,23;"SPACE"
    $9% REM Mat! loop
    200 IF INKEY$="0" THEN GD TO 4000
    205 IF INKEY$<>" " THEN ED TO 200
    210 PRINT AT 1日,23;" "#AT 20,23;"
```



```
    230 PRINT AT 12,24; BRIGHT 1; INK 5;"*"#caleh;" "
    235 EO EUB 5000
    240 G0 SUE 1000: GO 5UB 2000
    250 IF WIn>0 THEN GO SUB $000
    260 IF wIn=0 THEN FOR f=1 T0 SO: NEXT f: EO TO 400
    270 LET casch=cash+win
    280 PRINT AT 12, 25; BRIGHT $; INK Speash
    z90 PRINT AT 16,22; INK i(x); BRIGHT b(x);f5(x TO x+1);AT 17,22;f年(x+2 TO x+3)
    300 PRINT AT 16,25; INK i(y); BRIGHT b(y);&&(y TO y+1);AT 17,25;fs(y+2 TO y+3)
    310 PRINT AT 16,28; INK i(z); ERIGHT b(z);f%(z TO z+1);AT 17,2日; f%(z+2 TO z+3)
    320 PRINT AT 19,22; INK 6;"WINS "";win
    330 FOR f=20 TO 30z BEEP.02,*z BEEP .02,f+5; BEEP .02,f+102 gEEP .02,f+15: PAL
SE f/E: NEXT f
    340 FDR f=1 TO 3OOz NEXT &
    350 FOR 4=16 TO 20: FRINT AT f,22%" "& NE&KT *
    360 FOR f=16 TO 20: PRINT AT f,2g" "g NEXT &
    400 IF cash=0 THEN GE TJ 6000
    410 FOR f=1 TO LEN g$-9: PRINT AT 1B,21: INK 7;g$(f TO f&9): BEIP.0.U7,-5G: NEXT
    f
    500 GO TO 200
    979 REM Fruit machine working
1000 LET }x={(INT (RND*6))*4+
1005 IF RND>.85 THEN LET y=x: GO TO 1015
1010 LET y=(INT (RND*6))事4+1
1015 IF RND>. }75\mathrm{ THEN LET z=yz GD TO 1040
1020 LET z=(INT (RND#G)) #4+1
1040 FOR N=1 TO 15
10SO PRINT AT 6,3; INK RND*7;"SS":AT 6%6; INK RND*7;"S5";AT 6,9; INK RND#7;"SS"
1060 PRINT AT 7,3; INK RND=7;"SS";AT 7,G; INK RND"7; "SS"gAT 7,9; INK RND*7;"SS"
1070 BEEP O1,-20: NEXT n
108O PRINT AT 6,3; INK i (x); 隹GHT b (x); f$(x TO }x+1);AT 7,3;f% (x+2 TO x+z
```

```
1090 BEEP .03,-10
1095 FOR nm1.TO 15
1100 PRINT AT 6,6; INK RND#7;"SS";AT 6.9; INK RND=7;"S5"
1120 PRINT AT 7,b; INK RND*7;"SS";AT 7,9; INK RND*7;"SS"
1130 BEEP .01,-20% NEXT n
1140 PRINT AT 6,6; IN: I (y); ERIGHT b (y);f5(y 70 y+1);AT 7,6;f%(y+2 TO y+3)
1150 BEEP =03,-5
1155 FOR n=1 TO $5
1160 PRINT AT 6,9;RND*7;"SS*;AT 7,9;"5S"
1170 BEEP .01,-205 NEXT n
1180 PRINT AT 6,9; INK i(z); BRIGHT b(z);f年(z TO z+i);AT 7,9;f%(z+2 TO z+3)
1170 BEEP -03,0
1200 RETURN
1999 REM Check for wan
2000 IF x<>y THEN LET win=Oz RETURN
2010 IF z#x THEN GO TO 2100
2020 IF k*1 THEN LET win=3
2030 IF xms THEN LET WIn=4
2040 IF }x=9\mathrm{ THEN LET Win=2
2050 IF x=13 THEN LET W1ת=5
2060 IF x=&7 THEN LET win=3
2070 IF x=21 THEN LET wan=4
2080 RETURN
2100 IF }x=1\mathrm{ THEN LET win=6
2110 IF x=5 THEN LET WIn=10
2120 IF }x=9\mathrm{ THEN LET win=6
2130 IF }x=13\mathrm{ THEN LET wan=30
2140 IF x=17 THEN LET Win=8
2150 IF x=21 THEN LET win=0
2160 RETURN
2979 REM Money
3000 FOR p=1 TO win
3020 LET m=INT (RND*3) +18
3030 LET n#INT (RND*10)+2
3040 IF ATTR (m,n)=70 THEN GO TO 3020
3O50 PFINT AT #,n% INKK b; BRIGHT i;"T"
3060 BEEP .03,50: BEEP .02,602 BEEP O1,50: PAUSE-2
3070 NEXT P
3080 RETURN
3999 REM FInish
4000 BDRDER 4: PAPER 4: INK O: CLS
40IO PRINT m YOU HAVE ENDED UP WITH 每";cash"." Prime any key for anothur, go"
4020 FOR f=0 TO 30 STEP 2z BEEP - 01,f: BEEP +/100,f+108 NEXT &
4030 PAUSE O: GD TO 4
4999 REM Lever
5000 INK 7: QVER 1: PLOT 112,64: DRAW 16,O: DRAW O,日0: DRAW -8,0: DRAW 0,-72: DR
AW -0,0
5005 BEEP -03,-30
5010 FOR f=0 tO 1: QUER f: PLOT 112,64: DRAW 16,0: DRAW 4,69: DRAW -B,0: DRAW -4
,-60: DRAW -8,O: NEXT f
5015 BEEP -03,-30
5020 FGR f=0 TD 1: OVER f; PLOT 112,64: DRAW 16,0; DRAW 日,49: DRAW -9,0: DRAW -8
,-40: DRAW -日,O; NEXT f
5025 BEEP .03,-30
SO3O OVER O: FLOT 112,64: DRAW 16,0: DRAW 0,BO: DRAW -9,0: DRAW O,-72: DRAW -8,0
5100 RETURN
5997 REM Lost
6000 BORDER O: PAPER O: CLS
GO10 PAPER 7: INK 1: PRINT AT 3,0;" BAD LUCK ",#AT 5,0;" YOU HAVE JUST RUNN OUT DF
    MONEY "
6020 FOR f=30 T0 0 STEP -1: BEEP .01,f: BEEP ,02,f-5: BEEP .03,f-10: BEEP .04,f-
15s NEXT f
6030 PAUSE SOO: GU TO 4
6 9 9 9 ~ R E M ~ I n s t u c t i o n s ~
7000 BORDER 6: PAPER 6: INK Os CLS
7010 PRINT PAPER 1; INK 75" JACKPOT BY A.6.Bird. 1984 =
7020 PRINT AT 2,2;"You are on holiday and, berng"""a bit of a gambler, you deci
de".""to tackle a one armed bandit in""'"the nearby Amusement Arcade.".."Each go
costs 推1 so how mach of".""your holiday money do you want".""to risk"
```


## SPECTRUM PROGRAM

```
7030 FOR \(f=0\) TO 4: PLOT \(111+f, 44\) : DRAW \(10,-10,-5:\) DRAW \(0,-24:\) NEXT \(f\)
7040 INPUT " " "gcashs IF casti<! THEN GO TO 7040
7050 BORDER 0: PAPER 0: INK 7: CLS : PRINT PAPER 7; INK O;"SPECTRUM JACK\#PET W
INNING LINES \({ }^{\circ}\)
7060 FOR f=1 TG 7 STEP 3: GQ SUG 7100: NEXT \(\ddagger\)
7070 FOR \(f=19\) TO 22 STEP 3 : SO SUB 7100 N NEXT \(f\)
7080 GO TO 7180
```



```
7110 PRINT AT 5;f; INK 3; BRIGHT I;"QR";AT b,fg"OPn
7120 PRINT AT 日,f; INK 75"IJ";AT 9,f:"KL"
```



```
7140 PRINT AT 14,ft INK 2z BRIGHT 1;"MN";AT 15,f;"OP"
7150 PRINT AT 17,f\% INK 4; ERIGHT 1;"CD"3AT 18,f;"EF"
7160 RETUFN
7180 PRINT AT 3,13;"30";AT 6,13\%"10";AT 9,13;"日";AT 12,13;"日";AT 15,13;"6";AT 18
,13: "6"
7190 PRINT AT 3,29;"5";AT 6.2日; "4";AT 9,28;"4";AT 12,2日;"3";AT 15,2日;"3";AT 1B, 2
日: "2"
7200 PRINT AT 21, O; "Press any key to start the game.": PAUSE \(0:\) CLS : RETURN
8999 REM Graphice
9000 FOR g=6536日 TD 65527: READ r: POKE 9,r: NEXT g: RETURN
9010 DATA \(255,0,225,146,226,147,146,226,255,0,142,73,73,206,73,73\)
9020 DATA \(0,3,15,31,31,63,63,65,0,192,240,249,249,252,252,252\)
9030 DATA \(63,31,31,15,3,0,0,0,252,248,248,240,192,0,0,0\)
9040 DATA \(0,3,15,31,31,127,255,127,0,192,240,248,248,254,255,254\)
9050 DATA \(0,0,0,0,3,15,255,255,0,56,124,254,254,254,252,249\)
9060 DATA \(127,63,31,15,23,99,97,0,240,240,224,224,192,192,192,192\)
9070 DATA \(28,62,121,1,0,0,0,0,0,24,42,127,128,128,129,128\)
9080 DATA \(12,30,30,12,1,3,3,1,48,120,120,48,129,192,192,12 \mathrm{E}\)
9090 DATA \(30,33,1,1,97,243,243,97,240,8,0,0,134,207,207,134\)
9100 DATA \(20,21,61,95,65,85,81,21,0,60,126,226,126,226,60,0\)
```


## meresn dump



## JINGLES MAIL ORDER <br> SALE！SALE！SALE！

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## DRAGON 32 PROGRAM

## Use all your wits to rule the kingdom and keep maurauding invaders at bay． you must be wily and cunning in this game by Marc Cawthorne

You＇re the kille and you have dll the power loss 1 ll as cherose how mant men an work in the testik，on he dike and protel vont wathage Be satretul thoush baur dewlom maty caltic the dyke to thand or batadis mit come down from the masenta ne
theres alon a chance that


[^2]```
390 PRINT年170,"
                    ";:PRINTE170,"INVASION";:FGRT=1TO100 STEP25:SDUNDT,4:NEXT
T:FORA1=1TO15GO:NEXTA1
406 CLS5:POKE1226, 128:POKE1357, 128:POKE1290, 12日:POKE1350,12日:FORP=1025 TO(1567-3
1)STEP32:POKEP, 175: NEXTP:FORP=1026TO(1567-30) 5TEP32:POKEP, 1/55:NEXTP
416 FORP=1025 TD1536 STEP32:POKEP,171:POKEP,175:POKEP+32,171:POKEP+32,175:NEXTP
420 FORP=(1024+25)TQ(1535-7)STEP64:POKEP,111:NEXTP:FORP= (1024+26)TO(1535-6)STEPG
4:POKEP, 92: NEXTP : FORP=(1024+2日) TO(1535-4)STEP64:POKEP, 1 & : :NEXTP:FORP=(1024+29) TO
(1535-3)STEP44:POKEP,92:NEXTP
430 FORP= 1034 TO 1357 STEP 32
431 PGKEP-1,249:POKEP,249:POKEF+1,249:POKEP+32,249:POKEP+31,249:POKEP+33,249
432 POKEP-1, 207:POKEP, 207:POKEP+1,207: POKEP+32,207:POKEP+31,207:POKEP+53,207
4 3 3 ~ N E X T P ~
434 POKEP-1, 249: POKEP , 249: POKEP +1,249:POKEP+31, 249:POKEP+32, 249:POKEP+33,249
440 IA1 =RND(4)
460 PA1=RND (4)
470 IF PA1>=1A1 THEN550
4g0 FORP=(1024+16)TO(1267)STEP32:POKEP, 255:POKEP, 207:NEXTP:POKEP, 255
490 P=1322:PDKEP, 255: PDKEP-32, 255:PDKEP+32, 255:POKEP-1, 255:POKEP+1, 255
5006 FORT=100T0200STEP25% SDUNDT,2:NEXTT
510 PRINYE12日,"YOU WERE DEFEATED *
530 PLAY"CDEFG"
540 FORA1=1T01000: NEXTA1 & CL5:GOTD1331
550 PRINTQ13日," YOUR ARMY WON!'"
555 Q=INT (PA)+RND(75)
S60 PRINTE170,"SOLDIERS LOST= ";Q
570 PLAY"04CDEFG"
SBO R=R-Q:PA=0
5日5 IF R<0 THEN R=0
59% FOR AI=ITO2GDG:NEXTA1:RETURN
600 REM
610 CLSS
620 PaKE1226,12日
630% POKE1357,128:POKE1290, 128zPOKE1350,12日
440 FORP=1025 TO(1567-31) STEP32:POKEP,175:NEXTP:FORP=102GTO(1567-30) 5TEP32:PDK
EP,175, NEXTP
GSO FORP=1025TO153GSTEP32 :POKEP,171:POKEP,175:POKEP+32,171:POKEP+32,175
\triangleSO NEXTP
670 FORP=(1024+25)TO(1535-7)STEP64:POKEP, 111:NEXTP
6&日G FORPm(1024+26)TO(1535-6)STEP64;POKEP,92:NEXTP:FORP=(1024+2日)T0(1535-4)STEP64
:POKEP, 111:NEXTP;FORP=(1024+29) TO(1535-3)STEP64;POKEP, %2:NEXTP
690 PRINT*10." ";&PRINTC1右,"#KINGDOM%";
700 FORT=150TO250STEP25: SOUNDJ.3:NEXTT
710 REM
720 DA= (0+RND (2))-1
730 DB= (0+RND (2))-1
740 IF DA=1 THENPRINTE74," ";%: PRINTE74,"BANDITS!!";
750 IFDA=@ANDDB%0}\mathrm{ THEN GOTO 1520
760 IFDA=O ANDDE=1 THEN GOTD1420
770 IFDA=1 AND DE=1 THEN 700
740 FGRH=1274 TO(&253+RND(11))STEP-1
790 POKE H,191:POKE H,207:POKE H-1,191:POKEH-1,207:POKEH-2,191:POKEH-2,207
B00 NEXTH
810 POKEH,191
820 50UND36,1
B30 FORH=1341TO(1317+RND(11))STEP-1
840 POKEH,171:POKEH, 207:POKEH-1,191:POKEH-1, 207:POKEH-2,191:POKEH-2, 207:NEXTH:PD
KEH,191
850 SCLUND35,1
B60 FORH=1404TO(13日3+RND(9))STEP+1:POKEH,191:POKEH,207:PDKEH-1,191:PDKEH-1,207:P
OKEH-2,191; FOKEH-2,2072 NEXTH: POKEH,191
970 SOUND40,1
日日G DC=(毎+RND (3)-1)
890 IFDC=D THEN 950
960 FORN=1217 TO{1219+RND(11)) STEP1
910 POKEN, 17S:NEXTN
920 FORT=1313 TO(1318+RND(9)) STEP1:POKET,175:NEXTT
930 FORT=12日1TG(12日2+RND (日)):POKET, 175:NEXTT
```

```
940. FORY=1345 TD(1353+RND (7))&POKET, 175:NEXTT
950 FORT=1T025@0: NEXTT
960 RETUFN
970 WF=RND (1)*3
980 EA=RND (1) #4*8
990 LmEEA*PC*WF
1000 AS=(<R#21)/PG^2) + (RND (1)=20)
1010 IFF<0 THEN 1300
1026 F=\\-(AS*U)/109
1030 OF=(({R*3.142*2)/F)/100) #R
1040 IFOF<O THEN OF=0
1050 IFDC=D THEN OY=0
1060 IFDC=0 THEN 1090
1070 IFDB=1THEN1080
10日0 OY=INT (2+RND (112))
1090 BR=INT (RND (1) #1p)+1
1100 IF DA=OTHEN DH=0
1110 IFDA=0 THEN 1130
1120 OB= (BR/10|O) WR
1130 OF=1NT (OF):OY=INT (OY):OB=INT (OB) &F=INT(F)
1140 R=R-(OF+OB+OY)
1150 IFF<Q THEN 13B0
1169 IFR<Z THEN 1306
1176 IFOY>我 THEN F=F*(RND(1.5))
11B0 R=R+(INT (R/(RND (9))))
1190 RETURN
1200 IFD=0THEN 1220
1210 GDTD120%
1220 CLS
```




```
12SQ PRINT"YOU ARE THE RLLER OF A SMALL ":PRINTMKINGDOM. YOU CONTROL THE LOCAL"
#PRINT"WDRKFDRCE AND THE ARMY,"zPRINT:PRINT"DISTRIBUTE THE POPULATION":PRINT"BET
WEEN THE DYKE,FARMERS,GUARDS":PRINT" AND THE ARMY,":D=1
```



```
1270 FORT=1TO20G STEP20: SOUNDT,3&NEXTT
12日0 FORA=1TO30Cl:NEXTA
1296 RETURN
13R0 CLS:PRINTE74,"YOUR PEOPLE HAVE *
1310 PRINT,106,"EEEN WIPED OUT."
1320 FORT=1TO25&STEP25z SOUNDT,3%NEXTT
1330 FORA=1TO1500:NEXTA:CLS
1331 W=Y
1332 PRINT&PRINT" YOU REIGNED FRDM"&PRINT" 1134 UNTIL ";W
1340 PRINT&PRINT:PRINT"ANOTHER GO?(Y/N)"
135d A$=INKEY$IIF A$m"wHHEN 1350xIFA$="N"THEN END
1360 IF AS"m}\mp@subsup{\}{}{m}\mathrm{ THEN 40
1370 IF A&<<"Y" AND AS<<"N"N THEN1350
1380 तII
1396 CLS&PRINTE74,"YOLU DIED OF OLD AGE"
1400 FORT=1TO250STEP25: SOUNDT,4:NEXTT
1410 GOTO1340
1420 CLS5:POKE1276,128:POKE1357,128:PDKE1290,128:POKE1350,12B:FDRP=1025 T01536 S
TEP32:POKEP, 175:NEXTP: FORP=1026TO1537 STEP32:POKEP, 175:NEXTP
1430 FORP=1025 TO1536 STEPS2:POKEP,171:POKEP,175:PQKEP+32,171:POKEP+32,175:NEXTP
1440 FORP=1049TO1S29STEP64:POKEP, 111:NEXTP&FORP=1050 TO15295TEPG4:POKEP,92:NEXTP
:FORP=1052T01531 STEP64:POKEP,111:NEXTP:FORP=1053T015325TEPG4:PGKEP,92:NEXTP
1450 FORN=1217TO(1219+RND(11)}STEP1:POKEN,175:NEXTN:FDRT=1313TD(131日+RND(9)) GfE
P1:POKET,175:FORT=12B1TO(1282+RND(B)): POKET,175:NEXTT:FORT=1345TO(134B+RND (B)):F
OKET, 175:NEXTT
1460 QY=(5+RND (89))
1470 0&=0
149% F=F*(RND(3))
1490 R=R-(OF+DY+DB)
1500 IFR<2 THEN $300
1510 GOTOED
1526 F=F*(RND (5))
1530 R=R+(INT (R/(RND (4))))
1540 GOT070
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## Bont Inock <br> damest

1 ath writing to complain कbout all the ietters that have been published in HCW lately criticising people wino are dedjcated games players.

There is nolhing wrong with using your computer sole y Tor playng games. Thal's what I use my Commodore 64 for and J'sin not asharsed to say it.
I'm fed up wilh alt this stupsd thobbery. I don's what to spend my evenings sludying on my computer When t've finshed my homework then my iume is my own and I can do whatever I like

If I want 10 "wasle' my tume playing games on my computer lhen that s enarely up to me there's plenty of edachtional sof(ware about for all those goody goody people to duy of they want if they wanl to go and use French revision programs when they've Pansited then Fienth homework then let them I'd be the last person to enticise them for to
I just wish thal they woud mand thes? own busmess masead of lakang on lass hish and maghty att taje about micros 1 dontl ify and tell people what books they should read or whal records they should lasten to 1 den't think anyone has the right to desate to mete what type of soliware I buy for my computer

## John Rehardson, Bath

Lony odds
I have jusi boughr E. Commodore 64 and it is runting perfectly. The other diay while gong through some pust magnzines, I came across some letters in HCW 57 I was very disappolinted to learn how some people have experienced faulty 64's.

The letrer which shocked me the most was the one from S Biease. Stretford, Manchester S Biease had been unsuccessful with no less than elight 64s in approximately Tour weeks If we assume that out of every four Commodores which are sold, one is fauity, fof this is really the case, then Cammodore should close down ummedrately) the chance of getting problems with eight successive b4s is I out of 4 to the power of E. (Of course, I have assumed that S Blease has had emght
faulty 6ds successively.f
You might sey that his is intolerable and it could happen to many prople agan Bur fost magine that 4 to the power of 8 is equal to 65536, which is exactiy the same number of byles as the Commodore 64 has Now you can see how difficult il is to be as unlucky as S Blease.

I reathy fecl sorry for hum and hope that no one else ever experiences suith bad luck

Hemant Heeramun, Mami-



## 

」 ams wrating to HCW becaluse I gm fed up of reading leiters comp. aring goout peop,e cheating, like the one from Hesty O'Danovan of Torquay (HCW \&

1 love plaving adventure grimes and um dedicated fan of games like The Hobbst Itaink that it is a Yery good idea for readers to swap deas and solutions to thes type of game

The games ire quile expentive and when you have sived up seviral werks' pocke1 money 10 bay one 11 sab be really frtsiraling lo gel completely stuck when you haven'l even complesed hauf the game ${ }^{*}$

Please, please H\& w don't neplect dedrenlute jons I have had many helpful inps from the letters page and I hope 1 will be able to rely on HCW readers for smore such help in the filure

## Sleven Horton, Biackpood

Adventure plavers meted nor despoif, Wo whll be startime an advenfure help tane in the metr furkre so please confinve to send your problems and sofufions ro 45.

## Thumbs <br> down

*What's this?'" I thought to myself ti looked through my mopy of HCW
"*ky Tf program, agan'"
What's bappened to you HCW? You used to be treat supporier of this machine, but now if seems, you have joined with most orher magazanes and abandoned the II-99/4A.
But then. I thought, if mughr not be HCW"s fault. It coud be becalise nobody It cound be becalise nobody
is sending any programs in,
or that the progtams that are beng sent un are not up to standard.

So J'Is just have to write a program myset fand send is to HCW
The T1-99 4A is a good compuret. so let's have some more support for it

## Ai Newell, Abergavenay

You're right, Mr Newell We in and coter for she Whole range of poputar home computers bul we Feed good nexder subms: stoms If vow have a program whet yow thtm is kood enough io be pubished piecuse send it to

## Epoliffor

## H18)

I am considering geting a computer bus am al a loss All the computers are quite expensive so I do not wish lo wasle money on a poor complet
My friend tells me to get the 48h Spectrum but I disiske the xevboard There are a few other computers but those are too experisive There is one computer (Commodore (6) which a 5 in the right price range buit know very litie aboul it Would any HCW +eader be able 1o heap me wilh the problem?

## David Palatior, Falmouth

Mr Angry

## of ceeds

I bought my weekly HCw as ustal, on the 7hh Ocrobet Itxsbe 86) Senng as there were ne programs my Ti 99.4A I flicked to the letters page
Now for the twe As and an O I was Ascounded, Appalled and Outreged when 1 read Henry O Donovan's letter abous the Spectrutm and the $99 / 4 \mathrm{~A}$. It oppeary to me that Henry is an idea.ist when he tarts waffing about the Spectrum being a bellilat machatie th tus leter

If you ask me, J think Sir Clive has chturned cutt load of beeeep wach is only good for playing games on When Henry starts gabbing about balater in HCW I agree wath hirs, the T] 99:4A should have more than the Spectrum [mean. nearly every week there is a program for the Spectrum, but never a program for the Texas. Not eventatip on the Hint and Ttps page.
Don'r start wafling
about nobody sending programs in to HCW for the Texas because 1 hive already sent four, one of which Parco Electronics were going to pubish.
t am onty is years old, but I don't care af Henry 15 swo or $\%$ years old if 1 have something to say about somebody. I say "1

So Henry (or siny other dummy in the country) piease don't send any more usituhhful letets, of you may ges one like ins addressed to you!

## Johan Rogern, Deedq

## sporting <br> casualiny

1 am writing to compaim about some of the soliware beirg wititen especially Olvmpic games - Acisvision's Decathlon and Ocean's Dasey Thompson and any other game whth uses rapid right and lefi movement of the joystick

Surely anvone using thear jovst ci must know the strain that 15 pul on $3 t$ Eveniualiy, while enjoung playing Aclivision's Otympics, the Javelin thrower threw mules belore the line thus one broken joystick

I was thinking of writing 10 Aclivision and Occan but deaded to put my views to you.

1'm nol complaining about the actual games the graphics are stunnang li's the controlling of the games which annovs me

By the way, coud anyone tell the if any company does repairs to Quckshot 2 joysutics [ would also like to say your magazine is the best around, if a but thin lately I own a Commodore 64,

Devid Klag, Boalle

## Help the

I wourd like to congratulate HCW on the increasingly high standard of the magazate, espectally over the last couple of weeks.

One inugg I would like to see in the magazine is some more informative arricles. I an very interested in programming but unfortunalely I am not yet very good at it, in fact I am |ermble
] have been buyang HCW for many months and 1 have rarely seen miything whech is aimed at the programmer who is a complete begmier. Woudd
it be possible for HCW to run t teries on enther learning BASIC or machine tode? If sute that the HCW experts, with all thear experience, wouid be able to provide agreat deal of help for us poor souls who are less gifted.

I really feel that HCW would find sucti artieles very appenting to the majorsty of readers I lake to thonk that 1 use my compuler to the bess of my ab.lities. (I own a Spectrum 48K ) However I feel that ! amt missing out by nol beang ble to write good progrems.

I have bought books on the subject but, as many readers will know, it akes an awful lol of self disc pline to sit down and actually read and understand them even before you Iry and pill whit you have Jearnt into practice
1 thask that I would achreve more if I was abse to follow a series in a magazine because then I would have a whole week to learn and perfect new techniques whic watung for the next issue
1 am nol critesing HCW because I feel that if is a very good mapazine which caters well for most readers However there is miways foam far improvement end Ithink thet prograinming !t ath area which is very mach neglected by the majority of magazmes

## Carol Reagno, Glasgaw

Softiware winner
Readers whll be pleased to hedr that programming aricies of all kinds will be $\square$ regular feature in HCW from now on. /f anyone has other dear ahous what should be included in HCW we whil bu very pleared to hear them.


# can you county Oric 1 E3．95 

Meltowsoft， 23 Dalford Ct ，Hol－ linswod，Telford，Shropohire

Can you counr？is an educeromal game for four to six yedr－olds by h mew company called Mellowsof

As soon ats the program staris to load，you nottee that if＇s special．This program netually has a titte page．You may thunk this for trivini but these days， prescatation is 是most Es important the prodrem ityef．
When the main program is loaded the chuld is presented with three choices；a trip to the town， country or selside．When one is chosen，the appropriate picture is drawn．The child if asked to count the number of objects．For example，if you chose option
one，you may be asted to count the number of blue cars，or in the －of choret two，the number of sheep．

Thes may sound like other educational software but what makes thus particular progrtm head and shoulders above the rest is its presentation．The meticulous attention to grapheal deral，the three－part harmony music and the small but mporiant detals stuch 是 number inptit routine which doesn＇s requite RETURN make this a very profestional program．
8.5.
instructions
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## Can you spell？ Oric 1 E3． 95

Metlowsoft， 23 Dalford Court， Hollingswood，Telford，Shrop－ share

Can you Spell is an educationa！ genc for fow to six－year－olds by a relatıvely new company called Mellowsof．

When the man program is loaded，a large picture of a train is drawn to atiract the chald＇s atention．Then three－par harmony tune ir played untíl you intervente．The screcn set up sof t factory wish a sprall but very carefully designed truck at the ngin hand edge and ane crand the lop．Then a very detaited pacture of an everyday object is drawh at the to fight band corner

Tie child is then asked to move ：吅ice invaders－type basc and shoot the epproprate lemter
for the name of that object．If the choice ss correat the Iruck collects the letter and delivers it to the crame whel in tura moves to abox．Thes is done for each letter and thes the pame of that object is slowly built up

Thus may sound ake any other speling game but thas one is rather special．The qualdy of graphics and tuses played are superb and should help to keep the wandernst attention of a young chald

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insarketions
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## thont han

## European Knowiedge Electron $\mathbf{8} 6.95$

Micro Power，Sheepscar Hise，Is Sheeptcar St South，Leeds LS7 IAD

Educarional software for the Flectron is refe even now Tius is It shraightforward packuge to tesi the knowledge of youngsters in a varnety of arens connected with Europe．

Using the excellent graphic capabilitits of the Electron the main screen shows a mult－ coloured map of Europe with good accuracy and an atractive appearance

The sereen is then divided tinto three sections．The four possible antwers and the third an eniarged map of the country with better defined boundaries und a pointer to the matn drap，

The questions，chosen at random，are presented 10 teta of four per counsty．They ustally start with the name of the country end then branch out into a number of questions．The capintat might be requested，the nhme of $\frac{1}{2}$ famous person from the country，the janguage or currency and even the bames of large towns
Thas variety is one of the noteble features of this geme and tends to make it much less boring．A good rote learneng program with lev frith bui of a good，solid，standard．

## instructions

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P4

## French on the सun BRC E9．95

Silversoft，renouned for thanes software has brought of thes educational garne for＇O＇＊Level French students．As expected，it uses multiple－choice type questions，in the form of an adventure game．
The instructions clasm that this game testy your grammatical structure，Vocabulary，kilomantic phrases，comprehensian and ore basic knowledge of French．The that the whow text output speed questrons hised address wat irvitatiag buth that does nol
 matical and lexical errors made tame． by sududents at＂ O ＂－ievel

This is the scerarid：you afte instructions
S．\＄．

Britsb wartime pilot shot down ease of use over occupsed france．You are display taken captsve arad tubsequently escape．In your efforts to make your way back to Bughty your onty contact 15 with the focal
people who unfortunately speak nothing but French
The emate consists of four cocions which are of incteasing mogithsic diffaculey．On each noute，you come up aganst sitivations（meeting people， yyng thage exc）in wiuch you to reply fo questions in ranch of carty out methons described in Fiench You have to
ry and pass $\sin$ I Frenchmon
The whale story it quite well

## －11



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## We＇re giving

 away 50 bumper computing books to the senders of the funniest joke this week．They don＇t have to be original： just witty －and clean， of courseTHIS WEEK is a complete departure from our usual compention format，with a special chance for you to show us just how witty and amusing you can be．

And we＇re alsa giving nway different prizes：you eatl whi bumper computer book for your particular mackanc．Leamn how to program，or find oul more about graphics－there＇s something for everyone，and os far ots is humanly possible，we＇lk try to match the prize to the reader

What you have to do 25 in send us your favaurite foke．Mere＇s one of our current 「avourics

How do you know when Wally Week has been using the word processor？
He leaves Tipp－Ex on the scteen

## The joke＇s on you！ <br> You＇re at liberty to choose your

subject matter，Elh hough obviously compurer jokes will altract our attention，and they must all be printable！So na obscenties please． of orlitr smius

We＇re looking lot Iunny poke or wity shorl anecdotes．Now＇s your chanef to show the rest of the world just how leen your sense of humour is－and we＊ll he publishing the best an e spectol feature．Don＇l worry if they＇re wery
 ah斯＂部l we wirl

Here＇s a joke lo get your m the －$\therefore$ ：

Why did the man put six worms in has mourl？
Recause he loved chewing winglys
Perhaps you thinf you con do much better than that．Wetl．we＇re wating to herr from you $-\infty$ and remembet，computer jokes whll wh bonts points and go high on our dist of priortites．

Fifiy humorists will wan e factinating book on computert，we choose the toplc，but we＇ll ty to match the mbject meiter lo the reader

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